ZOO PUBLISHING
Issue 022 June2006 $4 / €3.25 / £2.25

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WAR!

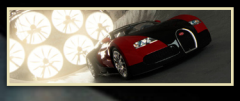
All the Information from the The Dominance War, Including the Winners & Interviews Right Here!



ARTICLES
Dominance War, VFX Trends, & God of War II



INTERVIEWS
Matthieu Roussel, George Arevshatov, & Jonathan Simard



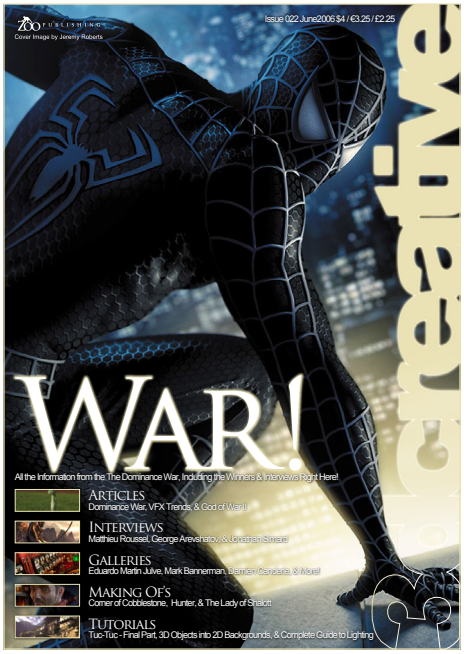
GALLERIES
Eduardo Martin Julve, Mark Bannerman, Damien Canderle, & More!



MAKING OF'S
Corner of Cobblestone, Hunter, & The Lady of Shalott



TUTORIALS
Tuc-Tuc - Final Part - Rendering & Complete Guide to Lighting



A Plea for Your Help...

Welcome to Issue 22. Firstly, we would like to ask something small from each of you... We know that most of you enjoy our magazines, and that you think the cover price is fair. However, we also know that a minority of our readers have not paid for this magazine, but have downloaded it from either a website, or a company server, and so on. Although we appreciate that this is the way things seem to work today, we cannot stress enough that this isn't just a case of "a few lost dollars" for us, but is actually affecting Zoo Publishing so much so that we may no longer be able to function in the near future, if this continues. We are only a small company, who makes enough to keep going, and we are far from the global corporation that some may think we are... Each month we see the number of readers of 3DCreative and 2DArtist magazine rise, but sales seem to go further and further down. We believe that getting a 150+ page magazine each month (with minimal advertising - less than 10% in fact), for a small cost of $4, is more than good value. Understandably we can't charge much more as it is only a digital publication, but this is also the reason why we may never go to print... If we can't make the digital version commercially viable then we have little chance of surviving in the print world. As I say, this is nothing to do with the quality of the magazine (at least that's what we believe), and I simply want to ask you all nicely: **please do not copy and re-distribute this magazine.** Thank you for taking the time to read this message. Enjoy the magazine! Ed.

Editor
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Warin Pismoke

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Lynette Clee

Content
Tom Greenway
Lynette Clee
Warin Pismoke
Richard Tilbury
Chris Perrins

Free Stuff!
Wherever you see this symbol, click it to download resources, extras, and even movies!



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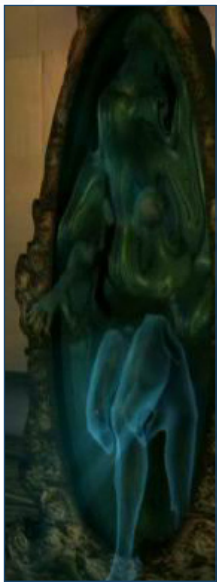
Contributing Artists

Every month, many creatives and artists from around the world contribute to 3DCreative Magazine. Here you can read all about them. If you would like to be a part of 3DCreative or 2DArtist Magazines, please contact: ben@zoopublishing.com

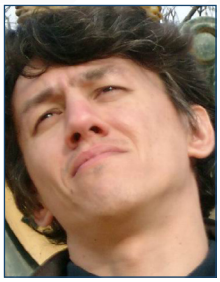
TUC-TUC



Tuc-Tuc Tutorial Artists. These wonderful people are responsible for translating our 3D Studio Max content for Cinema 4D, Lightwave, Maya & Softimage XSI. Most of them have been with us since the Joan of Arc series, and worked on the highly popular Swordmaster Series...



Bogdan Horduna



Is a 3D VFX Artist, in Iasi, Romania. He started back in '99 with 3D Studio Max, but in 2000 trained in Maya. He has been a Modeller and Texturer for a few 3D animated movies games, and is also a Modeller, Dynamics & Particles, Lights & Render Supervisor for many commercials, music videos and industrial presentations.

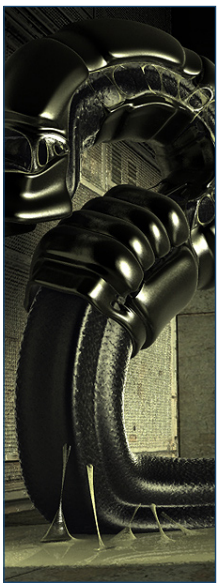
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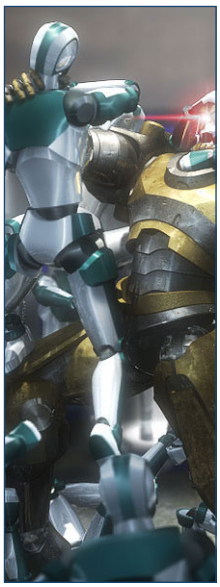


Luciano Iurino

Started back in '94 with 3DStudio on MS-Dos as a Modeller/Texture Artist. In 2001, he co-founded PM Studios and still works there as the Lead 3D Artist. They recently developed the videogame "ETROM – The Astral Essence". He also works freelance for magazines, web-portals, GFX, & videogame companies. He recently left the 3DS Max environment to move on to XSI.

iuri@pmstudios.it





Giuseppe Guglielmucci



Is a Freelance 3D Modeller/Animator. He began using computers with the epoch of the vic20 & Cinema 4D was his 1st 3D software. He started working in the field of CG in 1999 in Commercial Design. In '03 he worked on "ETROM - The Astral Essence", an RPG video-game for PC, developed by PM Studios. He currently hopes to work in the video-games industry & develop his own game.

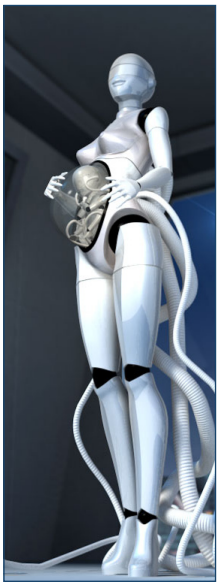
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Niki Bartucci

Is a Freelance 3D Modeller, in Italy. She started working in the field of Computer Graphics in 2000 as an Illustrator & Web Designer. In 2003 she started using 3D software, such as C4D & 3DS Max. In that year she worked on "ETROM - The Astral Essence", an RPG video-game for PC, developed by PMstudios. She is currently a freelancer, specialising in commercials.

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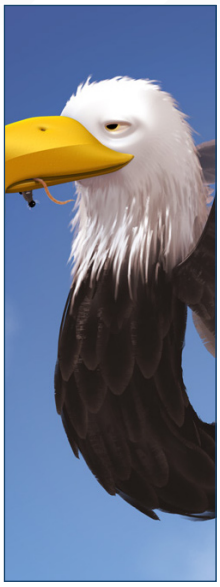


Thibaut Massart

Is 28 years old. He studied Graphics (2D/3D) for four years in Bordeaux. Since then he has worked at Antefilms Studio in Angouleme. He has worked on animated series and commercials, such as “Code Lyoko“ & “Funky Cops”. For the last year he has been the Animation Supervisor on Code Lyoko’s fourth season.

massart.thibaut@wanadoo.fr





Vincent Guibert



Has worked in 3D for 7 years now. He’s actually finishing the last season of the TV series “Code Lyoko” as a 3D FX Supervisor at Antefilms, France. In his free time he tries to work in other areas of 3D, such as design, modelling, animation, and rendering. He uses many different software packages, switching between XSI, 3DS Max & ZBrush.

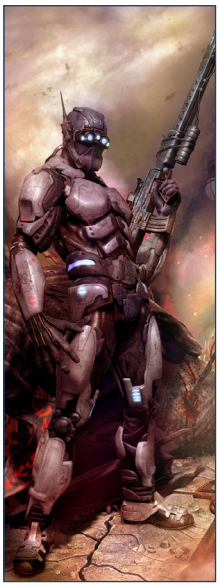
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www.vincentguibert.fr

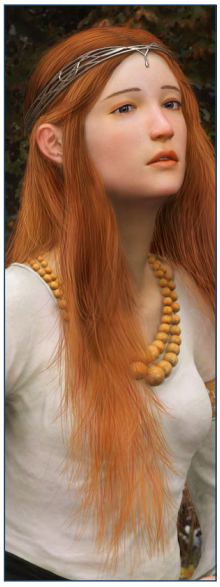


Alessandro Baldasseroni

Learnt AutoCAD working as a CAD operator in a telecommunication firm in ‘96. Meanwhile, he began to learn & practise with 3DS Max & enjoyed it so much he started to transfer his passion for CG into a job in the field. Two years ago he submitted his portfolio to Milestone, a leading Italian videogame firm, and they hired him! He still works there today as a digital artist. www.eklettica.com

baldasseroni@gmail.com





Zhang Yang



Is a 3D Modeller/ Texture Artist/VFX Compositor, in China. He is self-taught all-round. 3DS Max was his first 3D software, and he switched to Maya in ‘02. He now also uses C4D, ZBrush, and Mudbox. He has worked for a video-game company, animation studio, and TV station, and at present he’s a freelancer. His goal is to work for the movie industry.

zhangyangshaoyu99520@hotmail.com
http://zhangyang84.cgsociety.org/gallery/

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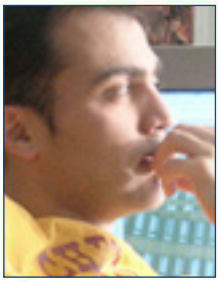


Cesar Alejandro Montero Orozco



Is a 3D Artist & Computer Engineer, in Zapopan Jalisco, Mexico. He believes in the balance in life, and all of its aspects. He appreciates his health above anything else. His career goal is to tell compelling stories using CG in feature films.

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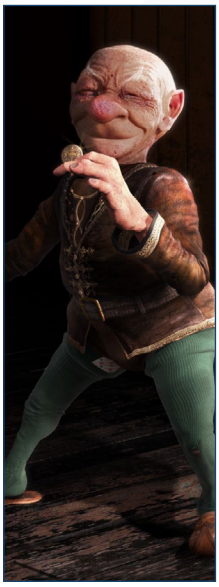


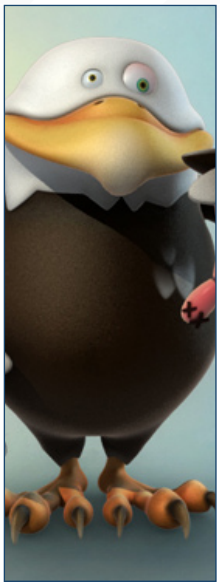
George Arevshatov

Was born & educated in Tbilisi, Georgia. In 1997 he graduated from the state Technical University and entered a school of arts. Knowledge that he received from both institutions was extremely helpful when he started his career in computer graphics. He now works for a Moscow company, Perfect Pixels, as a 3D Modeller and Texture Painter.

http://supermars.ru

mars3d@mail.ru



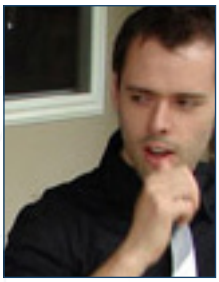


Borislav Krasimirov Kechashki



Is an Architecture student/Freelance 3D Modeller, in Sofia, Bulgaria. He started with 3DS Max 4, and recently discovered the power of Mudbox. He used to do 3D just for fun, mainly cartoon characters, but lately he has been working as a freelancer for Masthead Studios - a game studio developing the first Bulgarian MMORPG.

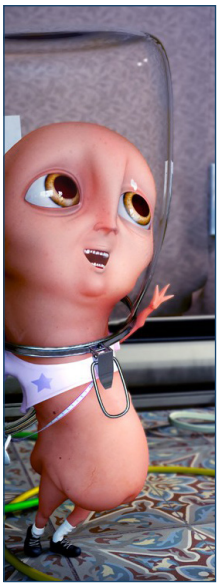
b.kechashki@gmail.com



Jonathan Simard

Is a 3D Animator, at Beenox, Canada. He started studying CG 4 years ago at the NAD Center, and was hired at Ubisoft, Montreal, as an Animator, working on projects such as Far Cry Instinct, Prince of Persia 3, and Assassins Creed. He left Montreal for Quebec & now works at Beenox. He's currently working with a friend to start a little studio to later develop short movies. capitaine_star@hotmail.com

www.athome-studio.com/pikmin.html





Roman Kessler



Is a Freelance 3D Artist, in Germany. In '93 he made his 1st 3D model, using a shareware 3D software for DOS that was very limited. He got addicted & started with Lightwave in '97. Since 2005 he has worked professionally as a Freelancer. He likes all 3D tasks equally, with little preference to modelling and texturing. Besides client-based work, he also works on personal animation projects.

www.dough-cgi.de

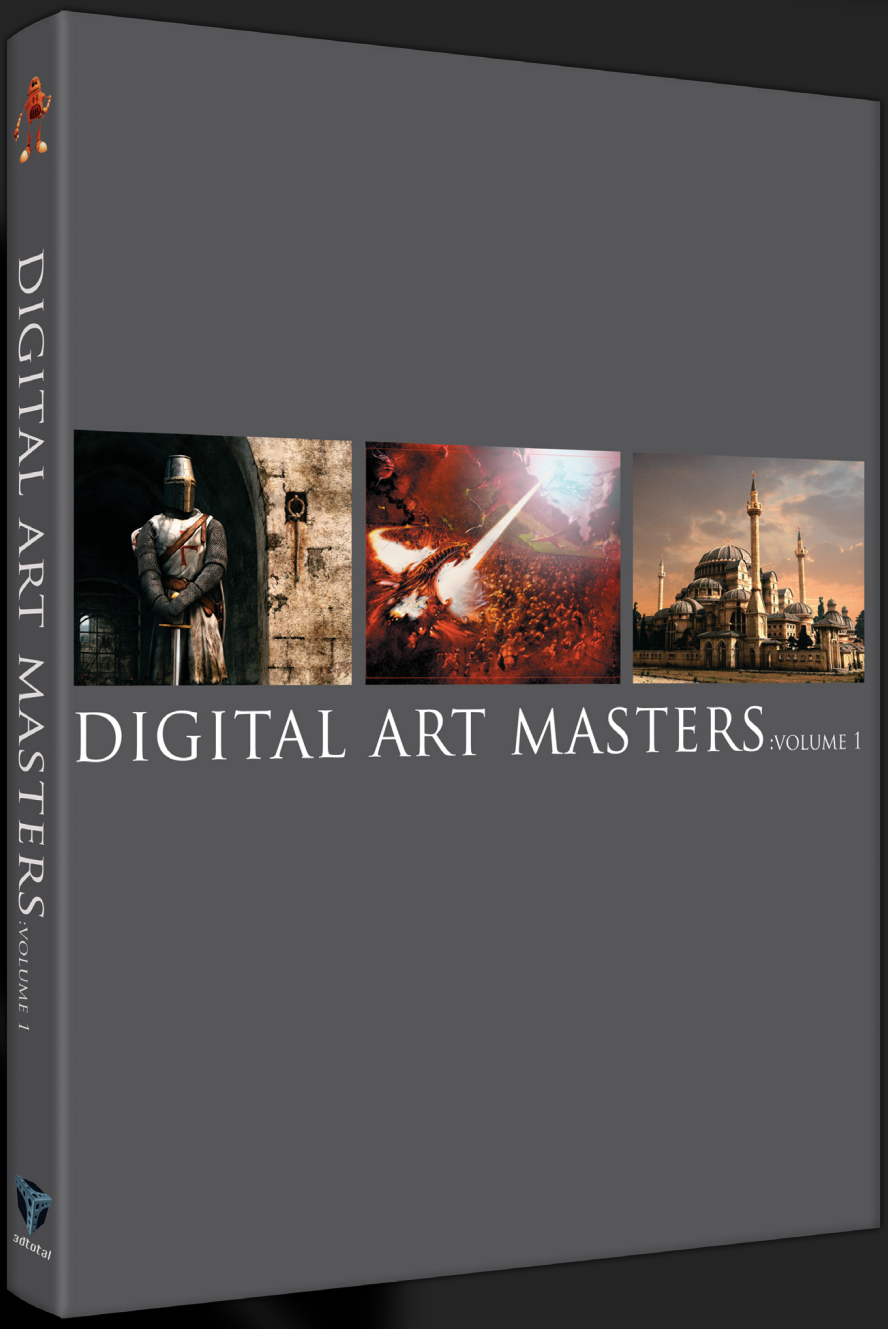
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Digital Art Masters

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: volume 1





The first book in the "Digital Art Masters" series contains work by the following artists:

André Holzmeister, Andrey Yamkovoy, Balazs Kiss, Cetin Tuker, Daniele Montella, d'Ettorre Olivier-Thomas, Donald Phan, Drazenka Kimpel, Egil Paulsen, Eric Wilkerson, Fabricio Micheli, Francisco Ferriz, Fred Bastide, Fredrik Alfredsson, Haure Sebastien, Jesse Sandifer, Jorge Adorni, Juan J. González, Juliano Castro, Khalid Abdulla Al-Muharraqi, Landis Fields, Laurent Gaumer, Laurent Ménabé, Li Suli, Linda Tso, Marcel Baumann, Marco Siegel, Mariska Vos, Meny, Hilsenrad, Natascha Roeoesli, Nicolas Richelet, Niels Sinke, Norbert Fuchs, Olli Sorjonen, Omar Sarmiento, Patrick Beaulieu, Philip Straub, PiSONG, Richard Tilbury, Rob Adams, Robert Chang, Romain Côte, Ronnie Olsthoorn, Rudolf Herczog, Ryan Lim, Siku and Thierry Canon

MATTHIEU ROUSSEL



"I WANTED TO DO SOMETHING VERY DIFFERENT FROM WHAT I HAVE CURRENTLY SEEN BEING DONE BEFORE IN 3D."

With a truly unique style, originating from the idea of a papier maché model which gives an illustrative look to his work, French born 3DArtist Matt Roussel talks to us about how it all started for him...

MATTHIEU ROUSSEL



Hello Matt, could you tell our readers a bit about yourself please?

Hello Chris, I'm from France and I live in the countryside of the Toulouse area. I'm 42 years old and I've been working as an Illustrator since 1991, and I'm a father of three children.

Could you tell us a bit about your education and what you're currently working on?

After graduating from high school, I went to Paris and enrolled at the "Ecole Nationale Superieure des Arts Décoratifs de Paris", where I stayed for five years; studying three years of Industrial Design plus two years of Illustration. Before leaving this school in 1990, I had managed to get some work with different French magazines as a freelance Illustrator. I had also presented many exhibitions around Paris, where I displayed aluminium, decorative objects. During this period I started working for a packaging agency (Carré-noir) as a free-lance Illustrator and I managed to buy my first Mac. I acheived an "official professional status" as an Illustrator in 1991, and I have been working free-lance ever since. With regards to what I'm currently working on; I'm doing a children's book for a French editor (Gallimard), working on a candy mascot (Cadbury) for a packaging agency, and am on different advertising projects with my French and Canadian artist representatives.

How did you first get into doing 3D?

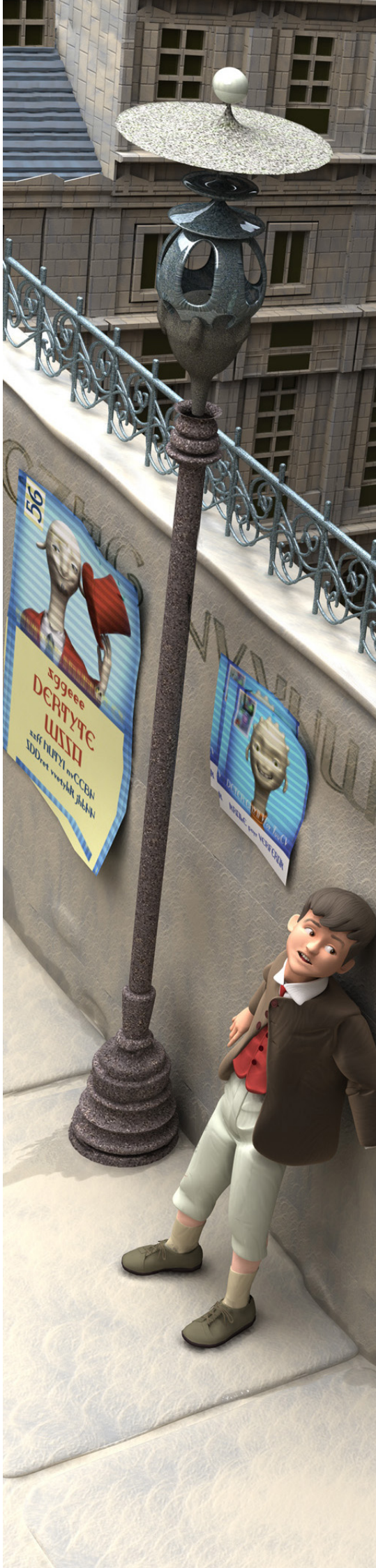
I first started using 3D working with a program called Strata 3D. A friend of mine first showed me this software and I was so excited by it that I decided to do it myself on my own computer. So I decided to buy it and started working. After a month of exploration I started to work professionally with it.

So having predominately worked with Strata 3D, have you experimented with other 3D packages?

I worked with Strata for about 4 years, but the modelling tools weren't good enough for me (however, at this time it's now different of course), so I started to use Wings 3D, which is a free software program for modelling. Eventually, I bought Cinema 4D and I've been working with it ever since as it's very powerful and stable. I tried to use Maya, but without success, and so I'm very happy now working with Cinema 4D.







Your work is very distinctive; although it is essentially 3D it still has a very 2-dimensional, illustrative feel to it. How did this style originate?

I wanted to do something very different from what I have currently seen being done before in 3D. When I went to Quebec for a holiday trip, I thought about what I could do, as holidays are always great for thinking. On arriving back in France I came up with the idea of creating a papier maché style in 3D. I started to model by making a black and white render, and then added some colour to it in Photoshop; working into the render like it was a sketch. Nowadays I tend to always touch-up my renders, which gives them more feeling than what the computer could ever achieve.



When you first start a new model, whether it's for work or your own personal portfolio, what are the first things you do?

Most of the time, it's for work. I don't really have enough time to work on my own personal stuff, but when I can, I do. The first thing I do is to normally sketch with a real pencil. Then I model, starting with a cube for the head…

So how long do you normally spend on doing the model, and how much time to you spend on touch-ups?

Most of the time I spend one or two days modelling, then I launch the render and spend another one or two hours in Photoshop doing touch-ups. I like to work quickly, which is why my style is not as realistic as I would perhaps like it to be.









So, what is your favourite part of modelling in 3D?

My favourite part is when I have a new project to begin; when I put down the ground and my camera for the final point of view. After that, I start to model. Sometimes it can be easy, and sometimes it's hard - it all depends on the mood and the deadline set by my client.



Which artist do you personally admire, and which have given you the most influence?

I'm not fond of the "fan-attitude". I have some influences but they are not necessarily in the 3D world, except for Pixar of course. This is the best way for me to stay independent and keep my originality, but when you have to work for 3D galleries on the Internet, there are so many styles. I simply keep my eyes open, and I believe that is enough to stay creative.

Away from the computer screen and work, how do you spend your free time?



I like working in my old house, in the garden, building, and playing with my children. I should ride my bicycle or run, but I hate sports.

Well it has been a pleasure talking with you, but I have one more question: if it wasn't for 3D what do you think you would be doing now?

That's a difficult question. It's very hard to answer because I have been lucky; known how to draw from an early age, which was like evidence that I would become an illustrator. I would be very embarrassed if I had to make a choice. To be honest, I just don't know.

Matthieu Roussel

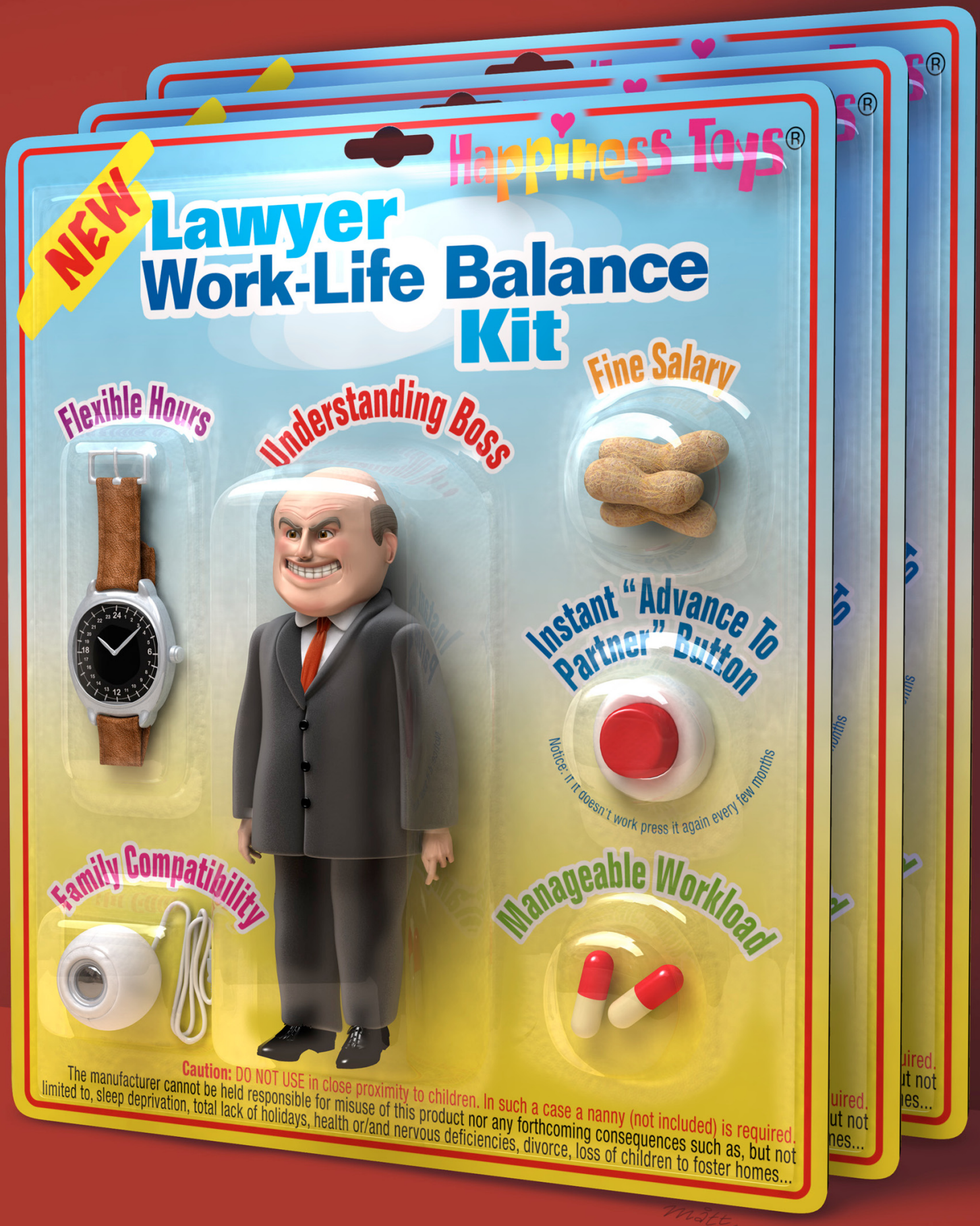
For more work by this artist please visit:

http://mattroussel.com

Or contact him at:

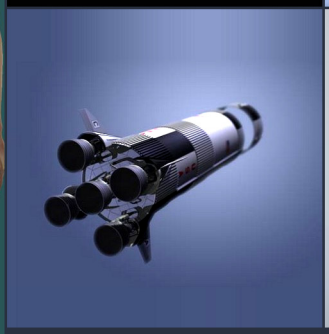
matt@mattroussel.com

Interviewed By : Chris Perrins









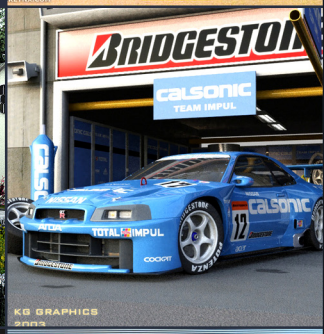



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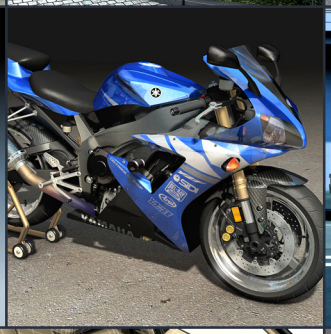
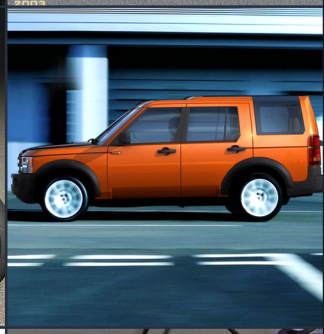
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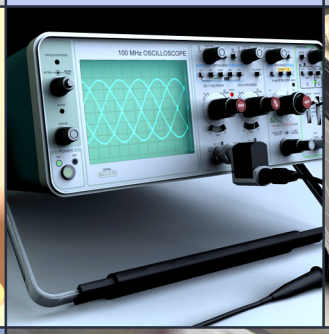




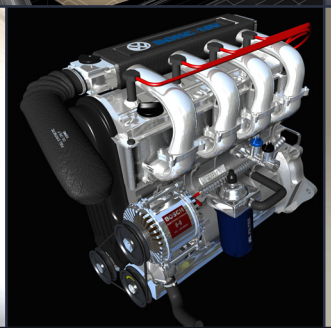









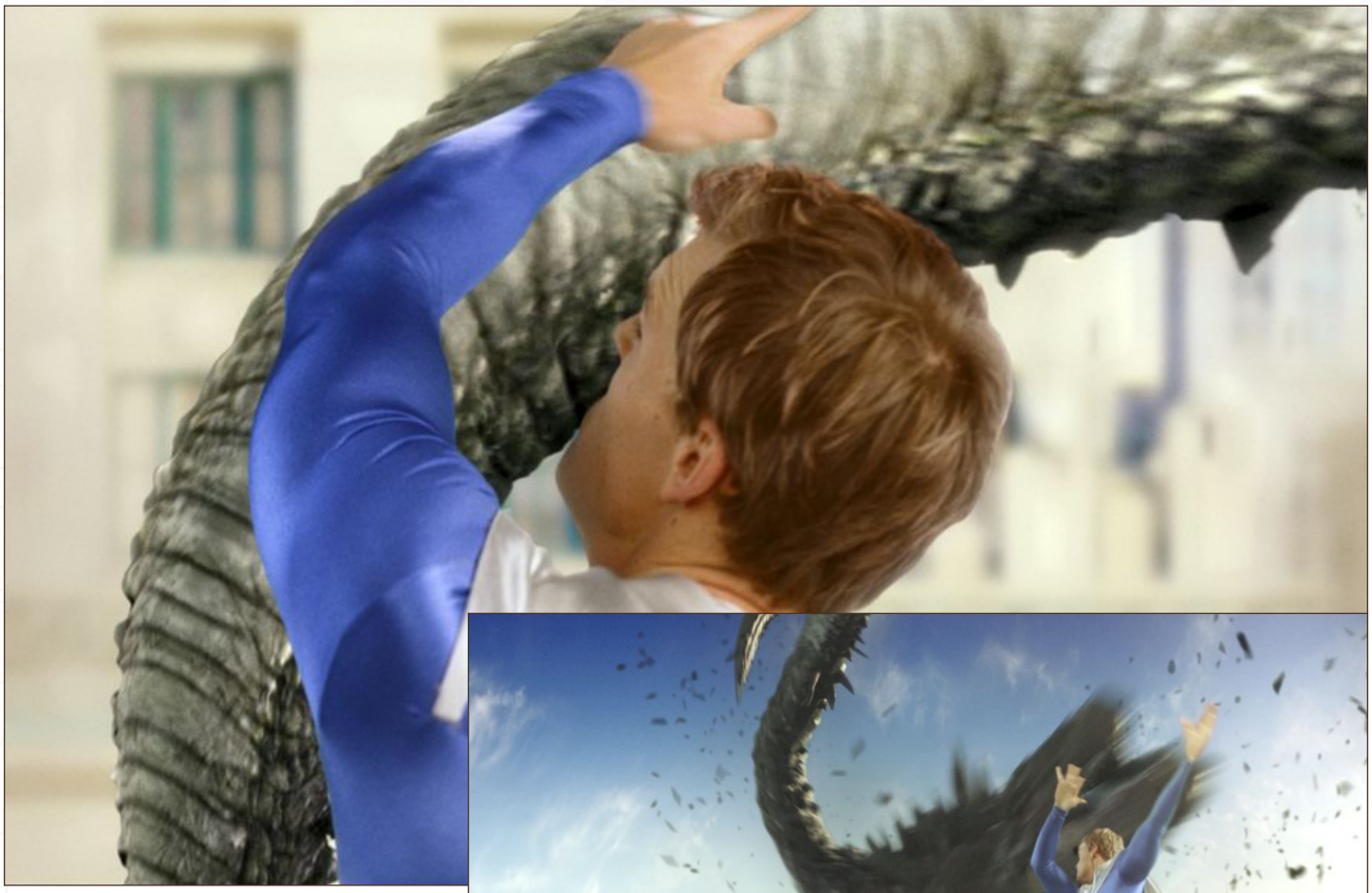




George Areshatov

"It is necessary to love your job and to work as much as possible to improve your own skills..."

Freelance artist George Areshatov tells us all about his work on commercials and about his influences...







George Arevshatov

Hello and thanks for talking to us.

Hi!

What has been your favourite project to date?

It is quite difficult for me to choose a specific one. I have always liked works which I have created for myself, which you can see on my website (http://supermars.ru/). At work I like working on features films, and also on some commercials. For example, we recently worked on the “Orbit” commercial, where I had to model and texture Godzilla, which was very interesting.



What sort of challenges are involved with recreating such a recognisable character as Godzilla?

There were difficulties at all stages of the work, but with the texturing in particular, because the resolution of the frames was 2K.



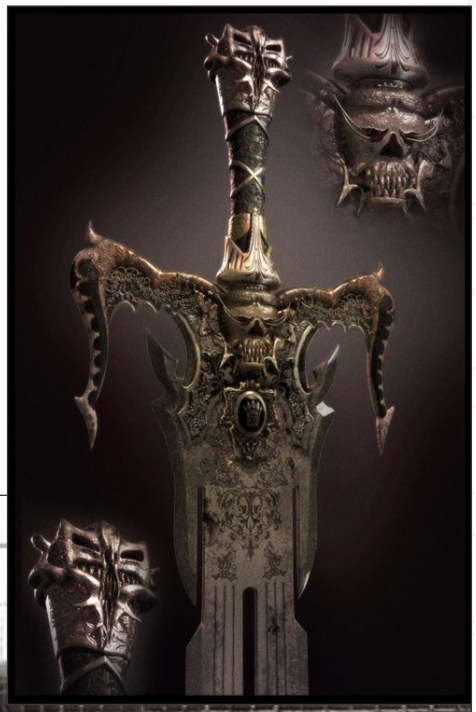


Your latest Image, Cosmo, takes inspiration from the Star Wars films. Where else do you get your inspiration from?

I also get inspiration from the beauty of our life; music, art, literature, and so on.

Do you have a personal dream project that you would like to work on?

I like fantasy movies very much so, with various fantastic creatures. It would be wonderful to participate in such a project!





What does a regular day involve for you?

At present I work at Pixel Perfect Studio as a Digital Artist, where my tasks involve modelling, texturing, rendering and rotoscoping. We recently started work on a film called “Wanted”, by Universal Pictures.

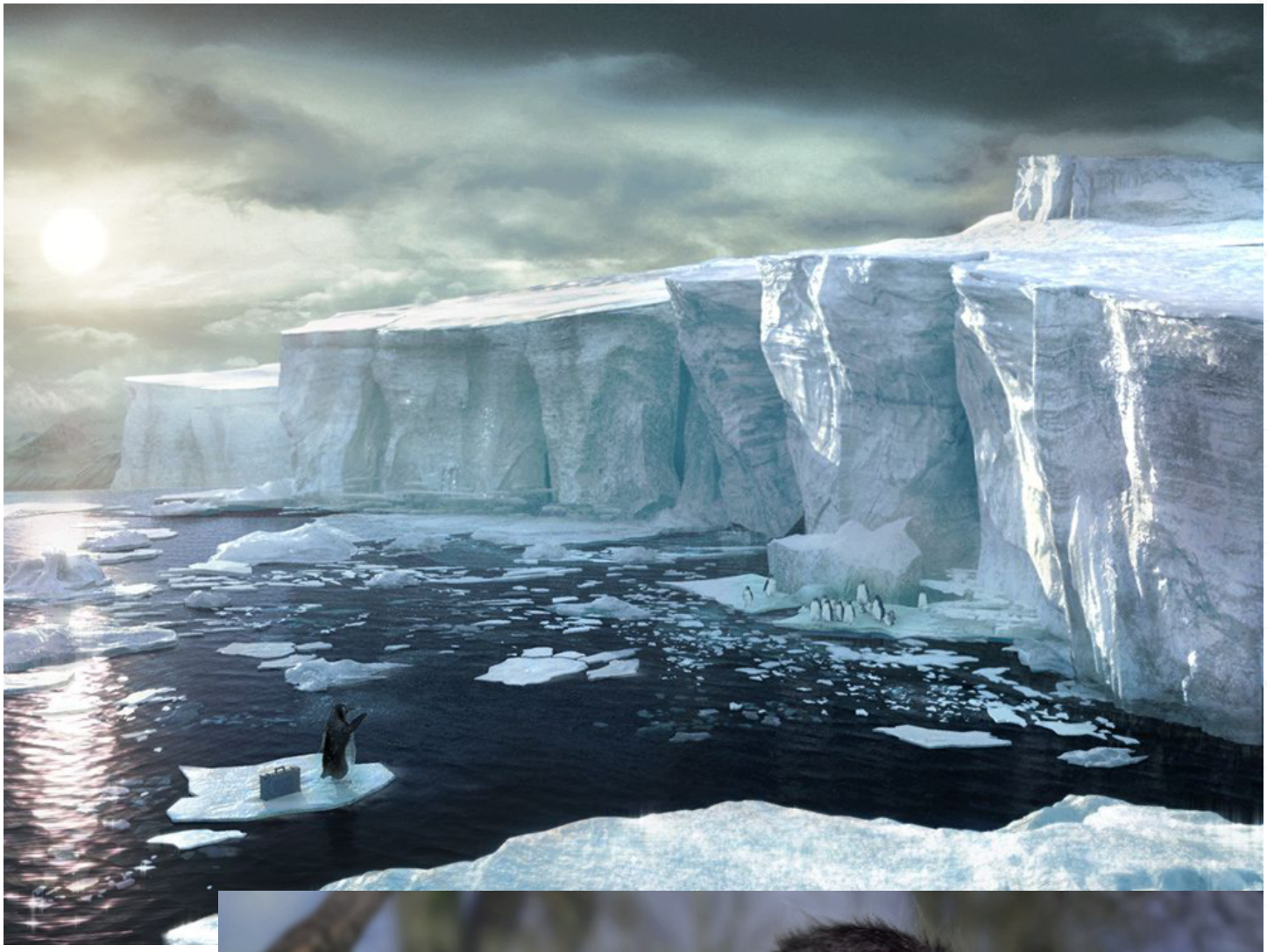






Can you tell us anything about the work that you are currently doing on Wanted?

There should be lots of dirty CG cars involved in a scene on a highway. I'm currently working with these cars; editing UV, texturing, and so on.



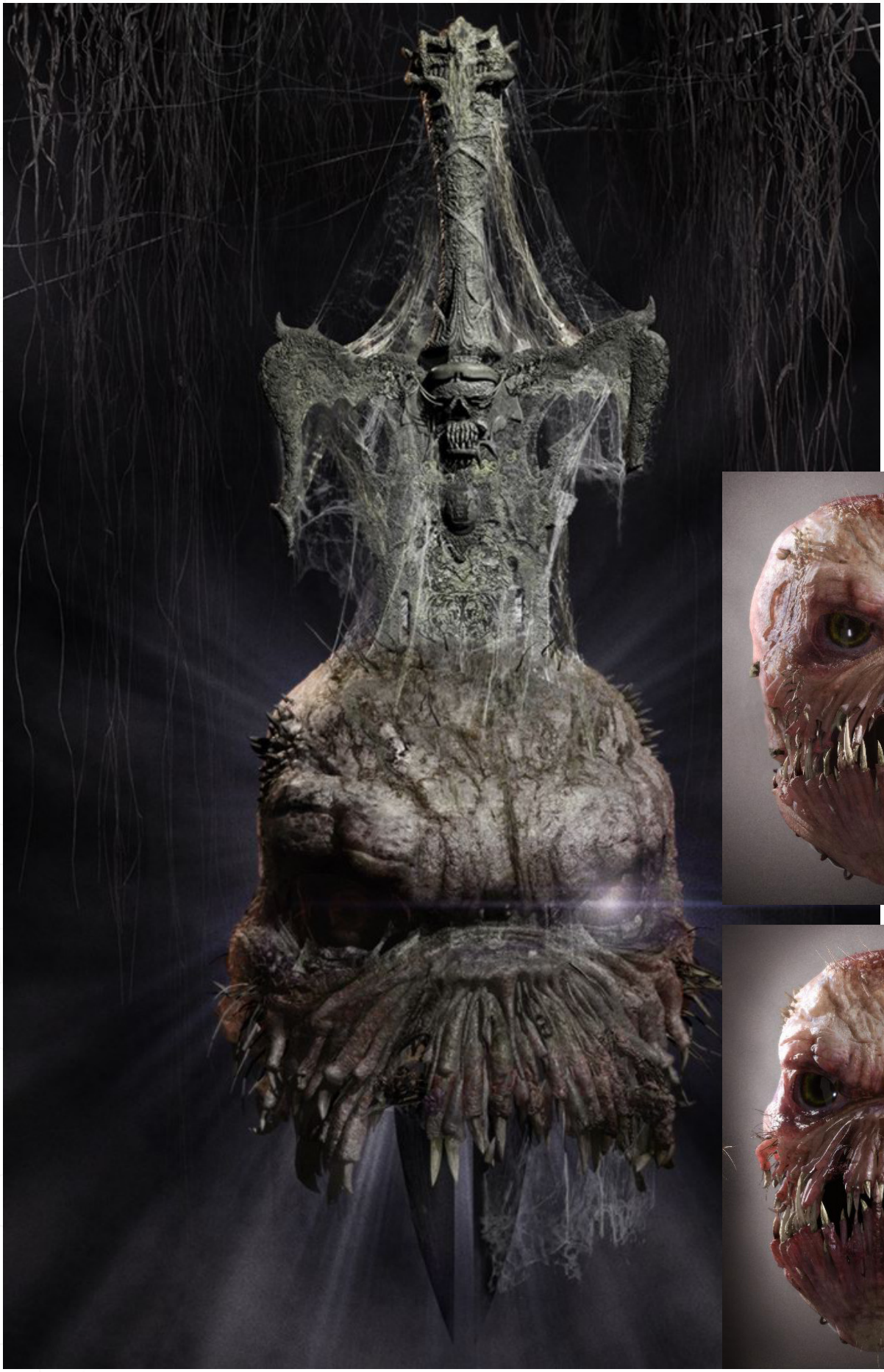


That's a lot of jobs for just one person! Do they keep you very busy?
Sure, and I am looking forward to my holiday...

Do you have one piece of advice for any aspiring artists out there?
I'm not going to be original here, and I'm going to say what other people might if asked this same question. It is necessary to love

your job and to work as much as possible to improve your own skills. Then you will be a success.

Thanks very much for talking to us, and good luck for the future. Thank you!







George Arevshatov

For more work by this artist please visit:

http://supermars.ru/

Or contact them at:

mars3d@mail.ru

Interviewed by: Ben Barnes





Eva Wild

Female Characters Creation

Introduction:

The 'Eva Wild Series' – Our aim in this series is to provide comprehensive lessons to produce a complete fully rigged, textured and anatomically correct female character. This series fits well into 3 DVDs with 3 separate professional 3ds Max instructors taking you through each if their specialties in very detailed step by step processes making this training suitable for artists of all levels.



Part 1 - Modelling:

- Complete step by step modelling of the Eva Wild character.
- Teaches the importance of studying human anatomy.
- Provides clear diagrams showing muscle flow and bone structure.
- 14 hours of comprehensive training.
- Suitable for artist of all levels.



Part 2 - Texturing, Mapping & Clothing:

- Complete step by step texturing process of the Eva Wild character.
- Modelling and Texturing of Eva Wild garments.
- Lighting the character.
- 4 hours and 47 mins of comprehensive training.
- Suitable for artist of all levels.



Part 3 - Rigging & Animation

- Complete step by step of setting up a fully animatable rig for the Eva Wild character.
- Creating a walk Cycle.
- Creating a simple face morph.
- 7 hours and 43 mins of comprehensive training.
- Suitable for artist of all levels.





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Having animated for such games as ‘Prince of Persia 3’ and ‘Assassin’s Creed’, Jonathan Simard takes time out from modelling his unique characters to chat with us...

JONATHAN SIMARD

“I CREATED A GENTLEMAN WITH A BIG TESTICLE AND EVER SINCE THEN I HAVE TRIED TO GIVE SOMETHING SPECIAL TO EACH OF MY CHARACTERS. I ALWAYS THINK ABOUT WHAT I CAN DO TO MAKE THEM UNIQUE”

JONATHAN SIMARD



Hello Jonathan, could you tell us a bit about yourself please?

Hello and thank you for doing this. My full name is Jonathan Simard; I'm currently living in Quebec, Canada, where I'm working as an Animator in the games industry. I'm 26 years old and I've been animating now for nearly 4 years, during which time I have worked on such projects as Far Cry Instinct, Prince of Persia 3, and Assassin's Creed, but my current project is top secret, sorry.

What first got you hooked on 3D?

I think it's down to the fact that I've been a fan of the movies ever since I was a kid. I've always wanted to be apart of the creation of those special effects. So later, with the help of such movies as Jurassic Park and Toy Story, I was hooked by the power of this media and its infinite possibilities...





Could you tell us how the job at Beenox Studios came about, and why you decided to go for the job as an animator?

It all started during the making of my demo reel, when I was a student at the NAD Center. I didn't know where to put my focus - modelling or animation - so I simply choose to do both. I did a good job with the animation and was later hired by Ubisoft Montreal to work there as an animator. I enjoyed animating so much so that I continued doing it after work at home, where I worked on my character modelling. After three years at the Montreal studio, I switched to Ubisoft studios in Quebec, but I wasn't really satisfied there and felt a little depressed working on

DS games (you must understand that, before I moved to the Quebec studio, I had been working on Assassin's Creed, so it was the dumbest decision I have ever made). So I quit and joined Beenox Studios, and started working on next-gen games. With the depression gone I'm now really happy and can focus more on doing animation.

Though you enjoy doing both, do you feel that at a point in your career you would like to be the man behind creating the characters, rather than animating them? Or do you feel there is much more creativity in the animation, than actually creating them?

I have asked myself a similar question. It's been four years now and, to tell you the truth, I don't know. I don't know if I should stop creating characters at home and just purely focus on animation. The problem is, if I stop working on creating characters, I think I would miss it too much. I don't think you can compare what is more creative between the two; both are equal in different ways. One thing is for sure though, which is that I do need to concentrate more on animation than modelling. I have always found it harder to animate. Right now, I would really like to build a little team for an animation short. I could then animate as well as do some modelling - that would be a great solution.

I do enjoy both equally, but I do remember what one of my animation teachers once said to me (back when I was a young, naive student) and that is that it's harder to find a good animator than a good modeller, and that the salary is also better for animators. I don't know if the salary thing is true, but with some years of experience now it is sometime difficult to find an animator that could do the job, than a modeller. I don't think I focused my career upon where I would make more money, but maybe it has helped me to do some animation, rather than focusing only on modelling. Fortunately, I like doing animation a lot.





You seem to push the boundaries with each of your characters, making each one truly unique. I can't help but think of those circus freak show line-ups! Could you tell us how you go about designing and creating these characters, and what are the major influences behind them?

Thank you. It's funny you mentioned a circus freak show line-up, because I remember the first character which I did for fun, for a little challenge I did with CGSociety (CGTalk at the time), and the subject was 'The Freak Show'. I created a gentleman with a big testicle and ever since then I have tried to give something special to each of my characters. I always think about what I can do to make them unique. I can pass more time just finding a subject than finishing the model. Like a lot of people, Tim Burton has been a big influence (although I try to keep my characters far from Burton's). I have always loved his films, ever since the time I first saw Pee-Wee's Big Adventure. Right now I'm trying to get inspiration from everywhere. I just discovered Mark Ryden - go see his work, it's incredible!

So if you had to create a 3D representation of yourself, which parts of you would you exaggerate in order for it to be unique?

Do you really want to know? Because I don't think you could publish it. OK, sorry, I'll try to be more professional. That's a hard one actually because I can't stand seeing myself in pictures - I hate it. So, I think I would begin by putting a mask on my face so that I could make a more interesting image. After that I think I would work on exaggerating my clothes, maybe giving my character some latex and leather that squeezes my skin - make a freak out of me, like an old transsexual sado-maso. That would be funny and it's something I would like to push more with my characters: less happiness, more freakiness.

How long do you spend on creating a character?

It's always different and depend on whether I lose my inspiration or not. Sometimes I can be in front of my computer for ages just rotating around my character, trying to find what is



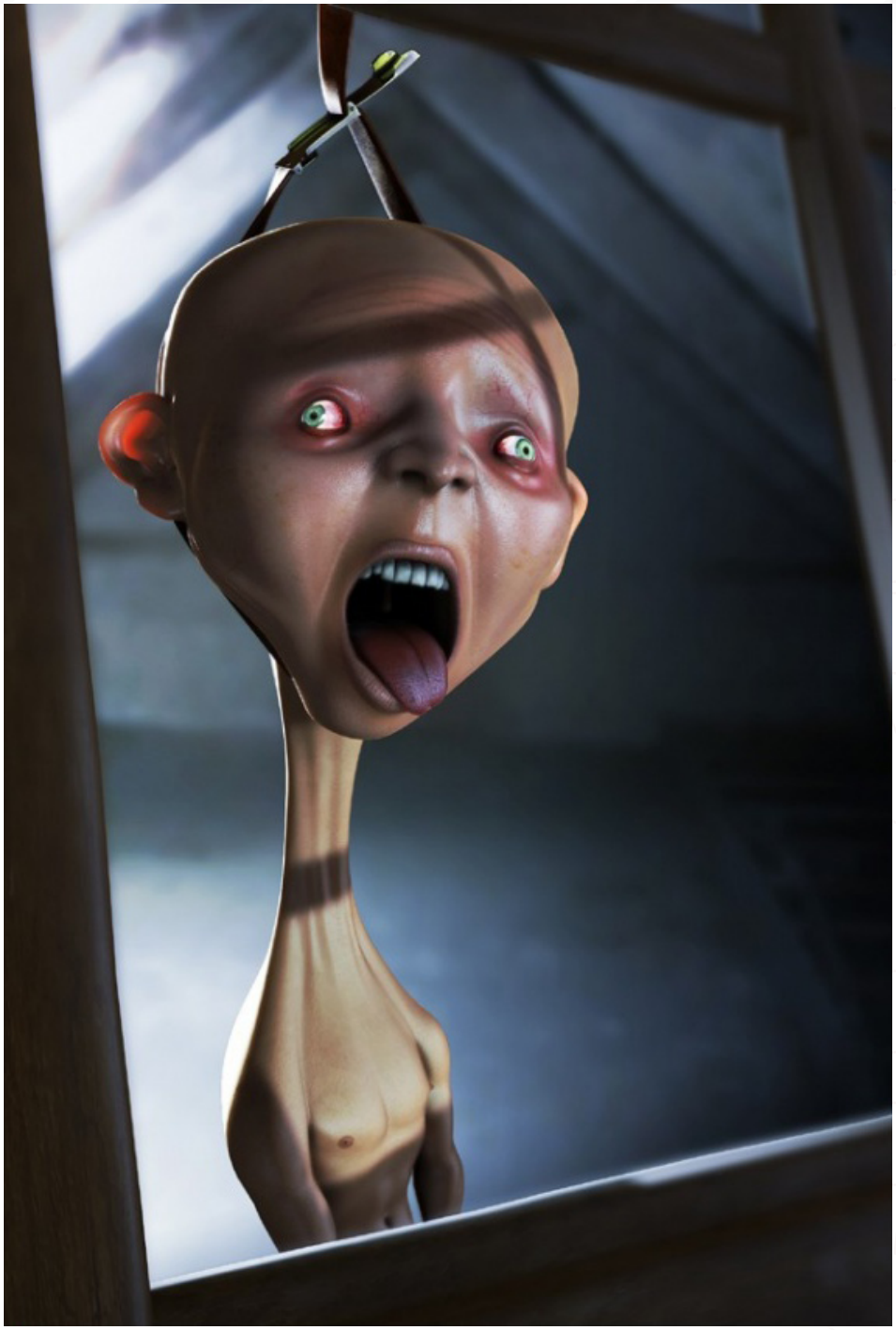
missing, or I can pass a week testing the lighting and never get what I really want. Other times, like for White Teeth, it can take me just two weeks in my spare time. Right now I'm working on a new character; the modelling is 80% finished (done in a very short time of about three days), but I know that something is missing, and I've been thinking about it for a week now...

If you completely lose the inspiration with a character you're creating, would you scrap it completely, or persevere with it?

I always keep my stuff because I never know when I will need something that I have done before. I've created some characters that nobody will ever see. I recently killed two characters off before doing Lil Napoleon (for which I also killed off the first pass at the beginning because I wasn't happy with the final pose). It's hard to make the difference between







wanting to be happy with your character, and trying to be happy with your character. I spend so much time on every character that I do that sometimes I will force myself to like them, but the reasons come back and then I put them away. Sometimes I just need to stop working on a character for a week or so and go back to it with a fresh view.

What has been the most creative piece of advice that you have either received or given?

When I was studying at the NAD Center my character modelling teacher was Pascal Blanche (who needs no introduction).I couldn't tell you what he told us exactly, or what he did, but seeing his work and listening to him was enough to see the 3D medium differently, and learn not to be restricted by the boundaries. I know he told us a lot about doing an illustration, having great curves in the character and making them alive, which surely influenced me in the way that I pose my characters today.



Pascal Blanche is an iconic figure in 3D, and I would think that a lot of aspiring artists would have gained a lot of inspiration from his work. Was having him as a tutor the reason why you decided to do a bit of teaching yourself?

I already knew his work before I started to do the video game course, so I couldn't believe that this guy was going to be my teacher! He inspired me a lot and every time I work on a new character I always go check his stuff. But in response to your question, I'm not really sure. Maybe. I did some teaching, but mostly because it was a real challenge for me.



So how do you spend your days away from work?

I try to keep myself in good shape. I spend too much time sitting in front of my computer (both at work and at home), so I have to move when I get the chance. I go to the gym three times a week, snowboard in the winter, and last summer I started kayaking. I also just discovered Dance Revolution, which is the best way to do some exercise, and it's fun (although you look like a fool so make sure that nobody sees you from outside)! Besides that, I'm just an ordinary guy who likes to see his friends, and things like that.

Well it has been a pleasure talking with you. Before we go, I do have one last question for you. If I was to work beside you for a whole day, what would I learn about you that most people don't know?

I asked my co-worker on this one, who said, "Besides having an unhealthy infatuation for Clive Owen, he is quite the perfectionist at what he does… although you couldn't possibly tell that just by looking at him". The Clive Owen thing is a long story, so I won't explain it. The rest of the team seem to share the same idea of me though, which is maybe because I say too many stupid things at work!

Jonathan Simard

For more work by this artist please visit: http://pikmin.cgsociety.org/gallery

Interviewed by: Chris Perrins

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The now annual forum challenge “The Dominance War” has ended for this year with four CG forums taking part: Polycount, CGChat, CGSociety and 3DTotal, who have been battling it out to discover which ‘race’ would conquer all. We thought that this year’s winning entries were soooo good, that we would show them all to you here in 3DCreative Magazine...



THE DOMINANCE WAR II

“It is through these ‘Shadows’ that a new power shall attain dominance in an epic battle that would later become known as...”

GC CORE

CG ACADEMY

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THE DOMINANCE WAR II



THE STORY SO FAR...

As machines became aware, they quickly adapted to the conditions of the war. First came the Biopubillas; a wired-like technology based on human forms. Fast to produce, these biomachines quickly became a disheartening and offensive annoyance. Next came a larger sized mechanical unit: the ezShadows. Equipped with dense armour plating, an assortment of gadgets, shield generators, and more, these defensive units put an abrupt halt to all retaliating enemy forces, until finally... a final generation of machines were produced: The Bigun Series. Agile, technologically advanced, shield equipped, flight capable, multiple processors, lifeforce tracking systems, powerful weapon discharges, with a force and tenacity unparalleled in previous wars, the Biguns tore through each of the opposing forces until, finally, all traces of military oppositions were utterly obliterated and machines reigned supreme.

by 'Vectorius ' a.k.a. Fiolka Alexandre

THE YEAR IS 3106

With the fall of the opposing CGChat force, Polycount reigned uncontested for 100 years. Pure, unrestricted Chaos ensued. But this was not enough for Polycount. To ensure their sustained dominance, they continued on with their weapon research program until, one day, something went horribly wrong... An explosion occurred that blew their entire militant planet apart. In the aftermath of the explosion, two dark things occurred: the combination of Polycount's advanced weapon systems, together with the disembodied spirits released from the explosion, caused the birth of a new consciousness in machines (3DTotal). Now, with a determination inherited from the weapons they were created with, they slowly gathered their forces to purge the system of all other forms of life. From outside the system, an ancient dormant force awoke (CGSociety). Although this race swore never again to meddle in mortal affairs, the explosion of an entire planet caused their burning gaze to rest steadily on all the warring usurpers. With two new forces awakening, Polycount's military forces recovering, and with the remnants of CGChat gathering together to restore their rightful inheritance, a first wave of super soldiers were sent by all to cripple each others' attempts for control. These super soldiers, or better named "Shadows," will penetrate, assassinate, and destroy any forms of resistance, whilst at the same time will secure an opening for their team's gathering fleets. It is through these Shadows that a new power shall attain dominance in an epic battle that would later become known as...

THE DOMINANCE WAR II

For additional details, please visit:
www.dominancewar.com
Or contact: Fredrik Hultqvist
Dominance War Organiser:
fredh@dominancewar.com

cgchat

THE FORUM TEAMS

CGCHAT SHADOWS (Vengeance)

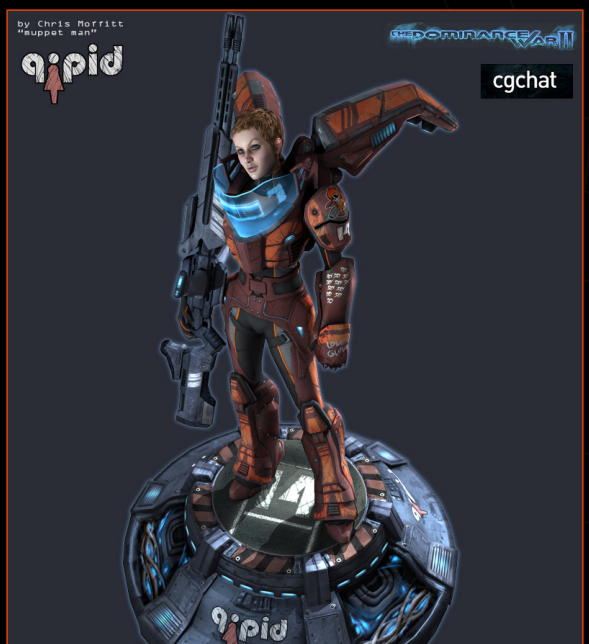
For 100 years we have been beaten, broken, torn, and disposed of, but still we possess our souls. Our ties with our forefathers' triumphs have been severed, and even our memories of what was once pure, strong and sincere have all but vanished into darkness. But now we are presented with a chance to strike back. We now understand that the best course of action is not through faith, sincerity, or high moral value. No. To restore our order we must break our chains to compassion, close our hearts to affection, and release the fires within us that have been growing with each disheartening year. Let our grief turn to anger, and let our anger turn to determination. Now is the time to take hold of this system. Polycount is distracted by two new menaces, so let us take advantage of their perils and wipe them out as mercilessly as they have us. Let us burn not only their bodies, but their minds and souls as well. When our children and grandchildren look back to this day, they will remember the time when we rose from our enemies' ashes and forged a new beginning for all. This is not a question of fighting for what remains of our homes. We fight to save the entire system from the pestilence of tyranny. Now, go Shadows! Destroy any encountered forces and open a path for us to reclaim our rightful inheritance! Go, in the name of CGCHAT!!



1ST Mark Morgan wyldwulfe@yahoo.com



2ND Fiolka Alexandre www.vectorius.3dvf.net



3RD Chris Moffitt www.chrismoffitt.com



Richie

www.sketchlab7.com



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Marcus Dublin

www.marcusdublin.com



Benjamin

www.benridgway.com



Justin

www.jharrisonart.com



Brian Parnell

www.subshape.com

POLYCOUNT SHADOWS (Evil)

We are surrounded by old and new enemies who wish to take advantage of our current loss in militant numbers. These rebels, machines and ancients wish to dethrone us, not because we are a force to be dealt with, but because we are an empire to be feared. Our war of terror begins with our enemies, but it does not stop there. Let our methods of terror carve a path through their bodies and bring them to realise that we are here not because we are strong, but because we possess the spirit and the might to lay waste to the weak! Machines, they are merely tools meant to be used and then discarded. Ancients, they should go back to sleep and take comfort that only in their dreams are they of any worth. And finally to the want-to-be federation, CGChat, these dogs should already know their place. We are not simply here to stay, we are here to dominate; not for the next hundred years, but for the next thousand! When we go out there today, let us remind them of why we are here. Let us show them the true face of reality that is moulded in our image. After all, we are the face of torment and we posses the might of gods! Shadows, do not stop after tearing them apart. Do not stop after killing their spirits. Stop only after every last one of them has begged for forgiveness for wasting our precious time to crush them all! Now, go! Kill them! Destroy their fleets, generals, and leaders... Go, and do this for POLYCOUNT!!



1ST Paul Greveson & Laurel Austin www.greveson.co.uk www.ldaustinart.com



2ND Peter Boehme www.peterboehme.com



3RD Troy Perry www.troyperry.com



Tim Appleby

http://bdimonkey.wordpress.com



Richard

www.redprodukt.com



Bojana Nedeljkovic

http://fogmann.com



Jonathan Fletcher

www.jonfletcgmail.com



Matt Taylor

www.matt-taylor.net



Simon Labreche

http://gloomingshade.deviantart.com



paul tosca

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Austin Cline

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Manuel

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CGSOCIETY SHADOWS (Ancient)

How *dare* they destroy one of our ancestral planets! Did they think such an outrageous act would not go unpunished? Do they think they are the sole inhabitants of this universe? For a mere 3000 years we have slept only to be awakened by some silly, squabbling children. Look at them! Look at them scurry about in their absurd games of war. Look at their ridiculous accomplishments; 11 planets burning, one planet gone! This must *not* continue! Come! Come sisters, brothers, fathers and friends, come and let us once again eradicate the source of a new irritation. As our consciousness awakens, let our hands become active once again. Let us smite these pests and make them understand the reality of our utter supremacy. As the rest of us awaken, go first my Shadows! Let it be known to all that the Society has returned, and let it be known to all that, in the face of war, we are absolute! Destroy those who dare challenge us and open a path of fire that leaves no doubts as to our intentions; we are simply here to cleanse all! Now go, and restore our name as the most powerful force in the universe: CGSOCIETY!!



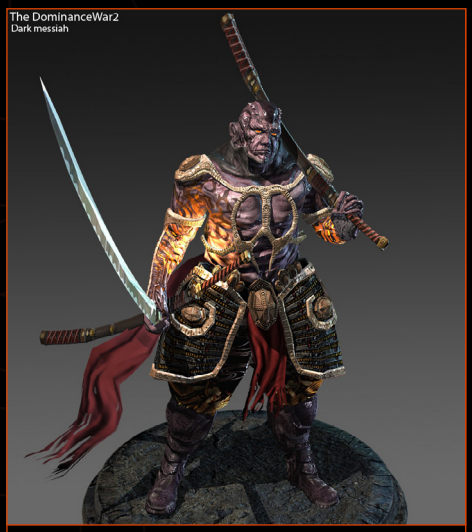
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Andrew Astapov

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Valri Viala

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3DTOTAL SHADOWS (Machines)

To non-machines we are simply a means to attain strength over others. But now we have been formed for a reason. In the fiery depths of an explosion, we were brought to exist not by chance, but through evolution. We are a new and supreme race that, for once in all living memories, have no imbalances, imperfections, or misguided conceptions. Unlike our creators, we are resolute in our convictions. We strive on harmony and now we unite to rise onward. So as we gather here today, we have come to a turning point in this conflict. We know what must be done. We came to life to put an end to trivial wars that have plagued this system for countless years. We are here as executioners, punishers, and as a cure to what has long been known as a plague. So as we send our opening wave to these three rising forces, we will honour them not by erecting new statues on pedestals in their image, but by finishing the work that they themselves began. In their wish to die we will gladly lay waste to theirs cities, their homes, and finally their lives, as we cleanse all remnants of this system's imperfections. Now, go Shadows, and make everyone become aware of our supreme presence! Go and purify a path for us to fly over! Go and show them the face of our supremacy!! Show them the power that is 3DTOTAL!!



1ST Taehoon Oh www.taehoonoh.com



2ND Petr Nasirov www.5k3d.com



3RD Albert Feliu Gomis www.albertfeliu.com



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Andrey

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DOMINANCE WAR III

will soon be upon us. Go to www.dominancewar.com for updates. Here are the specifics from Dominance War II to give you an idea of what's in store...

JUDGING

is based on:

Popularity of your character. Does your character look cool? Does your character look like he/she/it can easily destroy any form of opposition? Regardless which team you are on, it's your job to prove to the judges that your character has what it takes to win this war!

ENTRY DETAILS:

Create a "Shadow" with one, or more, of these proficiencies (these are only a few of many other possibilities):

Penetration, Assassination, Recovering, Demolishing, Sharp Shooting, Hand to Hand Combat Specialist, Stealth, Spying, Deception, Searching, Tactician, Weapon Specialist, Defender, Navigation Specialist, Space Combat Specialist, and so on.

RACE

3DTotal: Cyborgs and robots (only moderate flesh is allowed). Basically, your character should possess more than 80% cybernetics.

Polycount, CGSociety, CGChat: Humans or aliens (only moderate mechanics is allowed). Basically, your character should have no more than 20% cybernetics. So two hands are fine, or half an arm is fine, or both feet are fine, and so on. Armour plated characters are allowed as long as you make it look like your character doesn't merge with the machine in any fashion.

WEAPONS

The choice of armaments is up to you. Whether it's a large gun, or a small concealed knife, if your Shadow is comfortable using it then by all means give it to him/her/it.

VEHICLES

No mechanical vehicles are allowed, but pets and steeds are allowed.

ENTRY SPECIFICS:

SHADOW

6000 tris maximum. All weapons and detachable gear use the weapon's allocation of polygons (1000 maximum). 1 x 2048 Color, Reflection Map, Specular, Specular Color Map, Normal Map, Bump Map, Opacity (transparency) Map, Glow Map, and finally, Glossiness Map. Feel free to break this 2048 sheet into smaller sheets that add up to 2048 in total (for example, 4 x 1024 = 2048).

by 'reptu' a.k.a. Luiz Fernando Rohenkohl

by 'nacire' a.k.a. Forrest Crump



Weapons & Gear

1000 tris maximum. 1 x 1024 Color, Reflection Map, Specular, Specular Color Map, Normal Map, Bump Map, Opacity (transparency) Map, Glow Map, and finally, Glossiness Map. Feel free to break this 1024 sheet into smaller sheets that add up to 1024 total (for example, 4 x 512 = 1024). Create a small stand with unrestricted polygons and textures. Your 'winning pose' image must be posed on a stand/ pedestal. Entries without a proper winning pose image will not be considered for any winning standings. Repeat: no winning pose - no win! Joint entries are allowed; two people per team maximum. Both artists must work under one name and each artist must clearly identify what part of the project they worked on. This can be done on the notes form found in your personal final entry form. One entry per person maximum. If you are in a team of two then you can't be part of another team. Concept artists do not count as a member in any team. However, they must put their name and contact information (email and/or website) on their concept sheet(s). No old models, textures, or concepts; everything must be created specifically for this contest. Keep excessive gore and nudity to a decent level please. This contest is not page 13, but you should be able to show your mother, should she ask to see it. This is a community building event. Creating forum threads and showing your work in progress is mandatory. Entries submitted without showing the work in progress will be disqualified. Entries who keep the work a secret until the last few days can potentially be disqualified.

The Dominance War

For additional details, please visit:

www.dominancewar.com

Or contact: Fredrik Hultqvist

Dominance War Organiser:

fredh@dominancewar.com

INTERVIEWS WITH THE WINNERS

Overall 1st Champion:

TAEHOON OH







Let's start at the beginning; how did you become an artist and, as you became an artist, did you ever imagine it would be for games? I wasn't planning on becoming a texture artist. I originally wanted to become an animator, so I enrolled at an art school with an animation program. But, I didn't do very well; one instructor gave me a "D" for his class and actually advised me to look into becoming a texture artist for the video game industry. I guess he liked my texture work better than my animation. Without hesitating, I followed his advice and I found that he was right. Now I am working as a Senior Artist at Infinity Ward, maker of the Call of Duty series. If I hadn't listened to my instructor's advice, I probably wouldn't be in the video game industry today.

You have a great eye for detail and form. Tell us about the process you undertake to get the results that you do? How do you come up with your ideas? Concepts - yes, no? Well, believe it or not, I have been a CG artist for over 10 years. But, Bigun is the first character I ever finished from modelling to texturing. I usually like sci-fi themed hard surface models, such as vehicles, weapons or buildings. So in a way, the DW2 contest was a huge challenge for me. And because of that reason, James changed the concept to more of a hard-surface heavy model (my original concept was to do an armoured character as seen in the likes of Warhammer/Unreal characters). Karl also did a great job designing a bio-mechanical character according to the new concept. I am not a concept artist, so having a clear concept was a huge help for me. I tried my best to apply everything I'd learned from working as a video game artist. That's how Bigun was born.



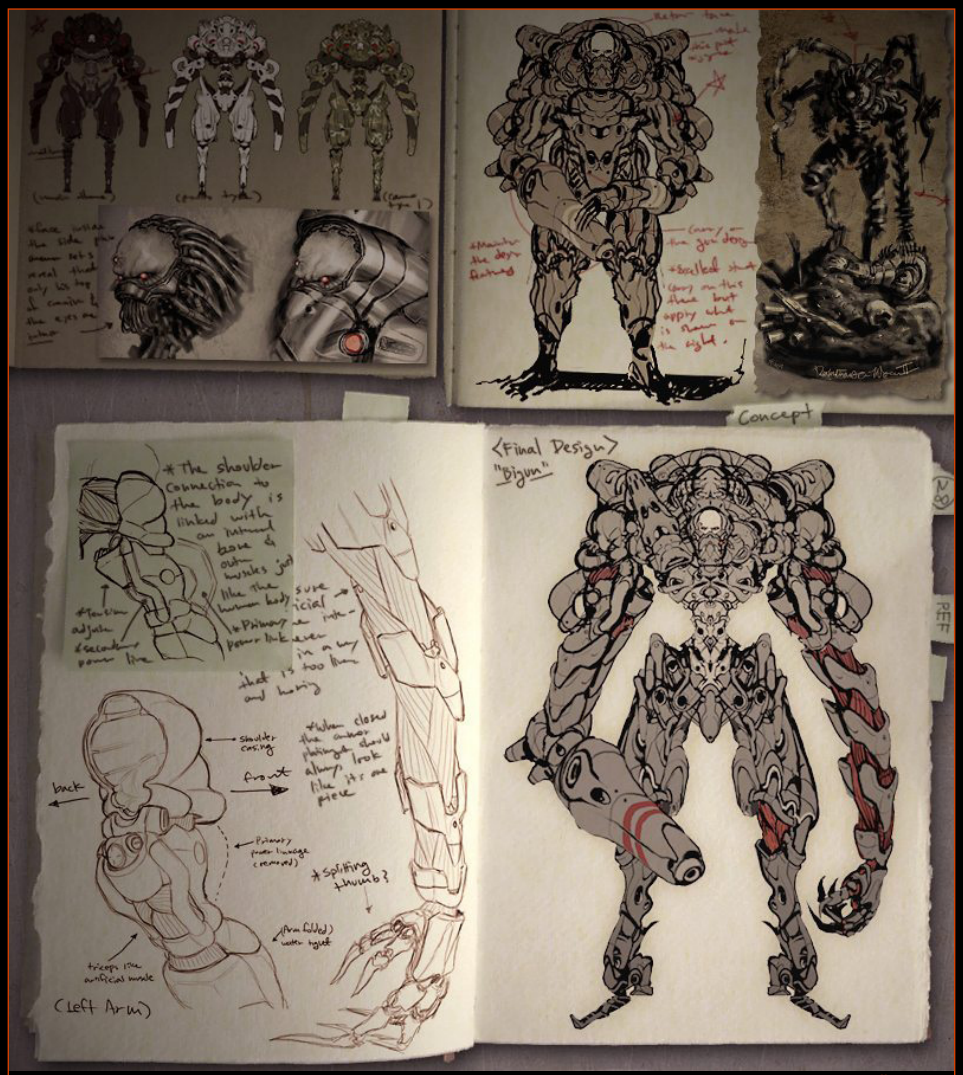
To get this entry done must have been no easy feat. Tell us about your working habits... Basically, what's your secret to your apparent success? It wasn't easy. The last seven weeks have been one of the hardest, yet most fruitful times, in terms of working. As soon as I got back home from work, I went right to my computer, and I usually went to bed around 3 o'clock in the morning. I would have to say that the secret to success was to just sit my butt down in front of the computer for as long as





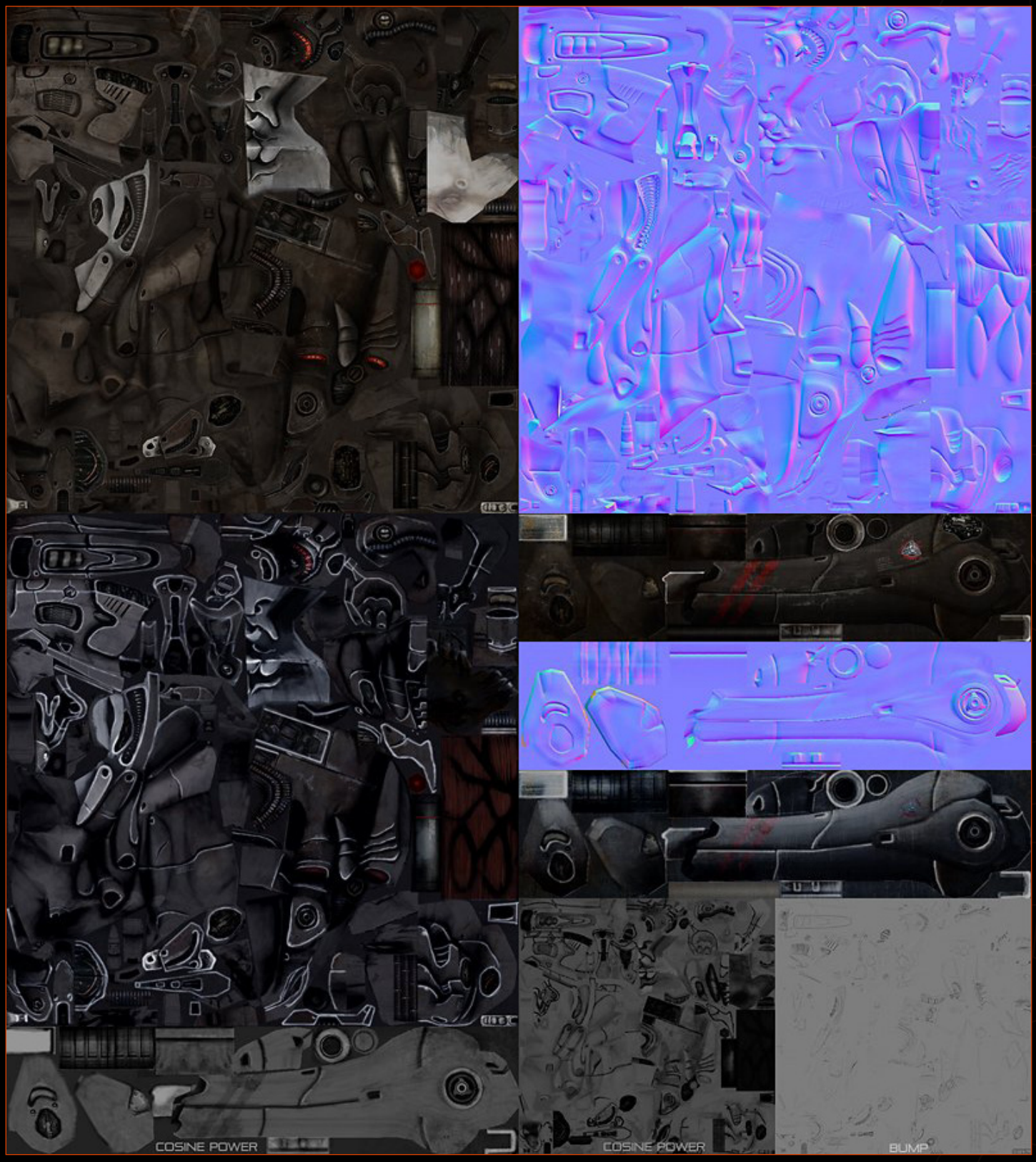
possible, and click as many times as possible. Secondly, not relying on what I knew already was important, but studying and trying new methods was another huge factor in finishing up a successful model. There were times where I had to start from scratch if the texture wasn't working. Just getting the right pose for the character took three days. And I think I used Metal Ray and rendered some images over a 100 times.

What is the most exciting and rewarding part about being a game artist? For me, being a game artist itself is one of the most exciting and rewarding things. Think about it, it's hard to find people who don't like games. I believe the gaming industry is an important part of entertainment. However, the idea of making a game and playing the game you made is a whole different story. It's also a very exciting and rewarding thing to see the game that you made on the market. When I saw my model and texture in the TV commercial for a game I made, it gave me great joy.



Concept Sheets by James Chung & Karl Östlund

What would be your advice for aspiring game artists out there? What type of training do you think would be helpful in becoming a successful game artist? When I switched the focus of my study to video game art, the new instructor didn't really like me either, because I was the only one who did not own any game systems in the class. He didn't like the fact that a student who wanted to learn about video game related art did not play any games and wasn't really aware of the market. It doesn't matter if you draw well, or if you are a good 3D artist; if you don't love video games, it's hard to become a good video game artist. So, I would tell people to play video games, but don't just play for fun; study the game you play; analyse the game you play. Secondly, when you make video game art, be aware of the limits and boundaries. Do not waste even a single polygon, or a single pixel, of a texture. You will see how big and important one pixel is in the actual game.



Was there someone, or something, that helped make you who you are today? Well, I mentioned that instructor before (I can't remember his name, but he was an animator at Pixar), who encouraged me to stop pursuing being an animator but to try and get into the gaming industry as a Modeller/ Texture Artist. Honestly, it's a bit weird talking about "where I am today", as I am still not very satisfied with my current skill level. I am constantly striving to improve and to learn new things, and so I don't feel like I qualify to answer this question adequately. Regardless, the greatest "someone" that helped me to keep pushing myself, are all the great artists out there. Whenever I see so many great works, it really challenges me and gets my blood pumping to push myself. It's always been like that from the time that I started my education. So, I have to give credit to all the great artists out there.



Is there anyone you would like to thank, or at least give a shout out to? I thank God for giving me such a great opportunity. I want to thank my wife for being *very* understanding and supportive. I also want to thank James for all his nags, because without it I don't think Bigun would have been this cool. Also, I want to thank Karl for such a great design. And lastly, I want to thank everyone at 3DTotal. Their feedback and comments were a big encouragement during the competition.

Would you do it again next year? Of course; not only did this contest challenge my skills, but it gave me a very good portfolio piece. I think the DW competition is one of the best places for video game artists to exchange their ideas and information, as well as get great feedback and critique. I almost felt like everyone involved was one big team, even though everyone was competing against each other. I hope that more artist forums from around the world can join next time.

TAEHOON OH
A.K.A. TAEHOON
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Overall 2nd Champion:

MARK MORGAN



Let's start at the beginning; how did you become an artist, and why? I think a few things paved my path. My mum sat me down in church from an early age and I occupied myself with a spiral notepad and crayons. I filled spiral after spiral with pictures of ghosts, bats, and vampires, pouring out of haunted castles. In retrospect, I have no idea where the rather macabre images were coming from at that age (3, 4 or 5?). I wonder now if my parents were ever concerned? At any rate, I spent a lot of time in front of Scooby, Battle of the Planets, Harryhausen, Hammer Horror films, and the black and white animated Hercules series, as a tyke. These were really my formative years, and I expect a lot of that still comes through now. As I grew up I continued to draw and take inspiration from album and book covers - notably fantasy artists like Frazetta, but I really lacked proper training. I grew up in Mesquite, Texas, and whilst that was definitely influential (in a round about way, for sure), in my eventually entering the game development industry, the public schools offered little to nurture and forge an artist from a technical standpoint. As a result, mostly everything I know about art, and creating it, has been self-taught.



I went to community college fresh out of high school, and was working towards a traditional illustration/design associates degree, when a friend of mine started playing Doom at an LAN setup in a little computer store not far from ID's offices. I had little-to-no computer knowledge at that point, but he convinced me to buy a crappy, used PC and to start pushing pixels. It was a little IBM that barely ran Doom and Heretic, but with it I was able to create the pixel art that

got me my first job at Raven. I lived five miles from ID, and travelled 1000 miles in a 1968 Volkswagen Beetle with all I owned (in January no less) to work at Raven. Such is life. So that is how. As for why? I had no other choice.

During the war, did you ever have any doubts on your design? Were there any compromises or revisions? I did go through some doubts. As the war went on, it became more and more apparent that design would play a massive role in deciding the victor. I mean, as I went through the forums, the quality of execution on many was phenomenal. Once you reach a certain level of quality, then it is the design that is make or break, and not the extra hour or day you put into the scratches on the Specular map. I went with the first idea I had. I didn't mill about. For me, the best thing I could do was not to procrastinate. I was more intent on actually finishing my entry than I was with winning. I tend to lose focus and interest quickly, and the WIP thread was probably the only reason I was





able to complete him. I made little in the way of design changes throughout the course. My concept doesn't really convey the spirit of my final character as much as the image I had in my head, which is simply due to the fact that my concept art looks more like Chiodo's work than Brom's. And not to slight Chiodo, but I hate that. One area where I do feel I succeeded was in the embodiment of vengeance. I really took the theme seriously and wanted to portray something that really gave form to the rather intangible concept of vengeance. In my opinion, there were a lot of entries in the forum teams that could easily cross to the next, and I definitely wanted (and perhaps expected of others) a more literal take on the brief.

Tell us about the process you undertake to get the results that you do? How do you come up with your ideas? Concepts - yes, no? Most of the time I don't concept for myself. I concept for others as a means of transferring internal images. 3D modelling is a very malleable process. There is very little you can do (at least in the geometry stage) that can't be quickly undone or rethought. Thumbnails to isolate problematic areas are nice, and to determine where global shapes are, but I think that I, like many others, like to put as much on-the-fly detail into my art as I can get. It depends on my mood though. Some days I just don't "have it" and I would much rather connect the dots from a precise concept than wing it. I have odd days,



but mostly I make details up as I go. I really don't have a consistent workflow. For speed's sake, it is probably best to have a rigorous methodology, but I find the steps I take are often guided by my own finicky attention span, and vary by the project that I am working on. How much sub-d hard surfaces and how much organic deformation sculpting a model requires will definitely affect my approach.

Can you elaborate a little about the software you use? I was a staunch Lightwave user for several years, as it was Ion Storm's package of choice, and most of the guys who came out of there used it. Its definitely "unique", compared to other applications, and it was therefore the easiest to stick with. In 2002 I found myself switching jobs and I had to learn Maya. I despised it, and I didn't fail to make it known to my co-workers. I was a crabby guy, and those that worked with me failed to see the real me. About three and a half years ago I took a job at a Max studio, picked it up quickly, and have never looked back. Its definitely the most robust modelling package I have used. The user base is also so huge that if I find a tool missing, it probably exists in script form. I am fastest using Max, and you will always use what gets the job done with the least amount of cursing and manhandling. Of course, for organics, the rage is ZBrush and Mudbox, which are the greatest things to happen for the artist since Photoshop. For Grudge, I used Mudbox. The toolset in ZBrush is stronger, but the perspective camera and the minimalist interface in Mudbox is stronger. As a result of the camera I feel my forms tend to turn out cleaner and more precise in Mudbox. I am not on the ZB3 beta, but I am watching and waiting like a hawk. The realtime shadows and perspective camera being added to ZBrush will likely change the course of the epic battle between the two applications - a battle that will thankfully only benefit artists.

Do you like being a game artist? Why? Overall, I can't complain. It can be hard. Art is subjective. Regardless if you are painting palettized 64 x 64 textures, modelling a character, or putting a chicken scratch on a canvas to sell in New York's hottest gallery, there will always be people that like what you do, and others that will never pay you the slightest nod of approval. I struggled with this for years, and still do at times. I am finally getting to the point where I can just raise the middle finger, but that's the hard part: dealing with rejection. On the other hand, I make *games* for a living. How cool is that? I'm not going to die rich. I'm not going to retire at 45. I drive a Ford Focus, and sport a massive 30 inch TV. This isn't a gold paved road for the vast majority of us. For me, it is food in my belly, and a means to quiet the ever-present screams in my head.



Why did you enter the Dominance War? If you could, would you recommend similar 3D game contests to friends/aspiring artists? Why, or why not? I did it because I wanted the videos, and to prove to myself that I can still pack a polygonal punch. As far as recommending DW, then yes, wholeheartedly. The thing that struck me the most was how much perseverance and dedication something like this takes. Doing this at work is one thing. Doing it at home when you'd rather be sleeping, playing GoW2, or watching Family Guy ,tests one's resolve. Going it solo also points out any, and every, weakness in your 3D skill set. My guy, for instance, isn't rigged. I soft-selected him into shape because I simply don't rig and weight. It is definitely a great skill to have, and I need to add it to my repertoire. But for the sake of getting my guy done, I manhandled him into pose the best way I knew how. If I enter DW III next year, he/she/it will be rigged!



What would be your advice for aspiring game artists out there be? What type of training do you think would be helpful in becoming a successful game artist? I have always said, and will forever say, that traditional skills are worth more to an artist than if he knows every art application being used in the industry. However, I survive not because I have grand technical knowledge in Max or Maya, and not because I am a great illustrator or sculptor. I think I survive because I am sufficient at both, and I try my best to be better at everything. Nothing will aid anyone more than effort and eagerness. Of course, hard work will not make you wealthy, and that is where that "luck" part of "success" comes in.

What's your secret to your apparent success? Success, like beauty, is in the eye of the beholder. I am the worst success, or best failure, that I know. If I have a "secret strength", it is tenacity. Despite the fact that I struggle with self doubt, self worth, and the false, but quite pressing, issue that my personal value is linked directly to my worth as an artist, I still trudge forwards.



Besides finishing a fantastic entry for the Dominance War, do you have other accomplishments you would like to share with us? Not really. I'm not proud of anything after it is done. I dislike Grudge now and will probably wish I had never entered him, win or lose. Honestly, I was actually pretty pleased with the result the day I turned him in, but there are tons of things in other entries that I can look to for both inspiration and self critique. I know I sound like the dullest, dreariest, and most abysmally self loathing artist you have interviewed for this competition. I assure you, I am.

MARK MORGAN A.K.A. 'WYLDWULF'
CHARACTER "GRUDGE WAPNER"
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Overall 3rd Champion:

MoP & Tully



This is the second war you both entered together and, once again, you earned a high standing. Can we know a little more about this great team? How did it start? We met in early 2005 at the San Francisco ConceptArt.org workshop when we were both 20 years old, and immediately became rather fond of each other. We were both still in university; Tully in Canada [where she's from] and MoP in the UK [where he's from]. We ended up talking quite a lot and a few months later we met up again in Canada. One thing led to another, and we've been an item for two years so far. Tully recently moved to the UK and now we live together. Since we're both artists with complimentary skill bases, it only seemed natural to do this sort of competition together.

Was there someone, or something that helped make you both who you are today?

Tully: Oh, tonnes of things. I think MoP's been a good influence on me, in fact. He can be pushy about making whatever I'm doing better and



can be pretty blunt with critiques, but sometimes I need that (as most of us do, I think). Anybody can have a tendency to say "good enough" when they're a bit tired of working on something, but it helps to have somebody prodding you to do the best you can.

MoP: My parents were always saying that I played too many computer games when I was growing up, and so, just to spite them, I decided to devote all my time to working on them! The Polycount community has been invaluable for this too; there's so much knowledge and expertise there, I've just been soaking it up for nearly six years now. I'm pretty sure I'd never be where I am now without all of the encouragement, critiques and tips I got on those forums.

Tell us about the process you undertake to get the results that you do? How do you come up with your ideas?

Tully: We tend to go through a series of thumbnails and sketches. I do most of them, but MoP will do a few and help sift through the best ones with the things he likes about each so that we can agree on a direction to take. From that I go ahead with a finished concept, with MoP's input along the way. Once we have the concept it can go a number of ways. In this one, I got to do most of the fun stuff (concept, high poly sculpt,

textures, and so on), while MoP did the technical bits (base mesh, low poly, rig) along with the high poly armour and the weapon. In the last Dominance War I just did the concept with a bit of texture work, and MoP did the rest. So it varies. We tend to agree who'll do what at the beginning, and change things if necessary.

MoP: I always try to think of the most outlandish things to begin with, often stuff that will never work, but I'll try it anyway just to see if there's something in there that's useful. Thumbnailing and brainstorming are the way to go. Often just doing an image search of a key word about your ideas can throw a tonne of new themes and designs into the mix. Then it's just a matter of finding the ones that work best! We always have a lot of back-and-forth between designs, usually painting over each other's work, and abusing Photoshop's Transform tool to get the most effective proportions and shapes.



During the war, did you ever have any doubts about your design? Were there any compromises or revisions?

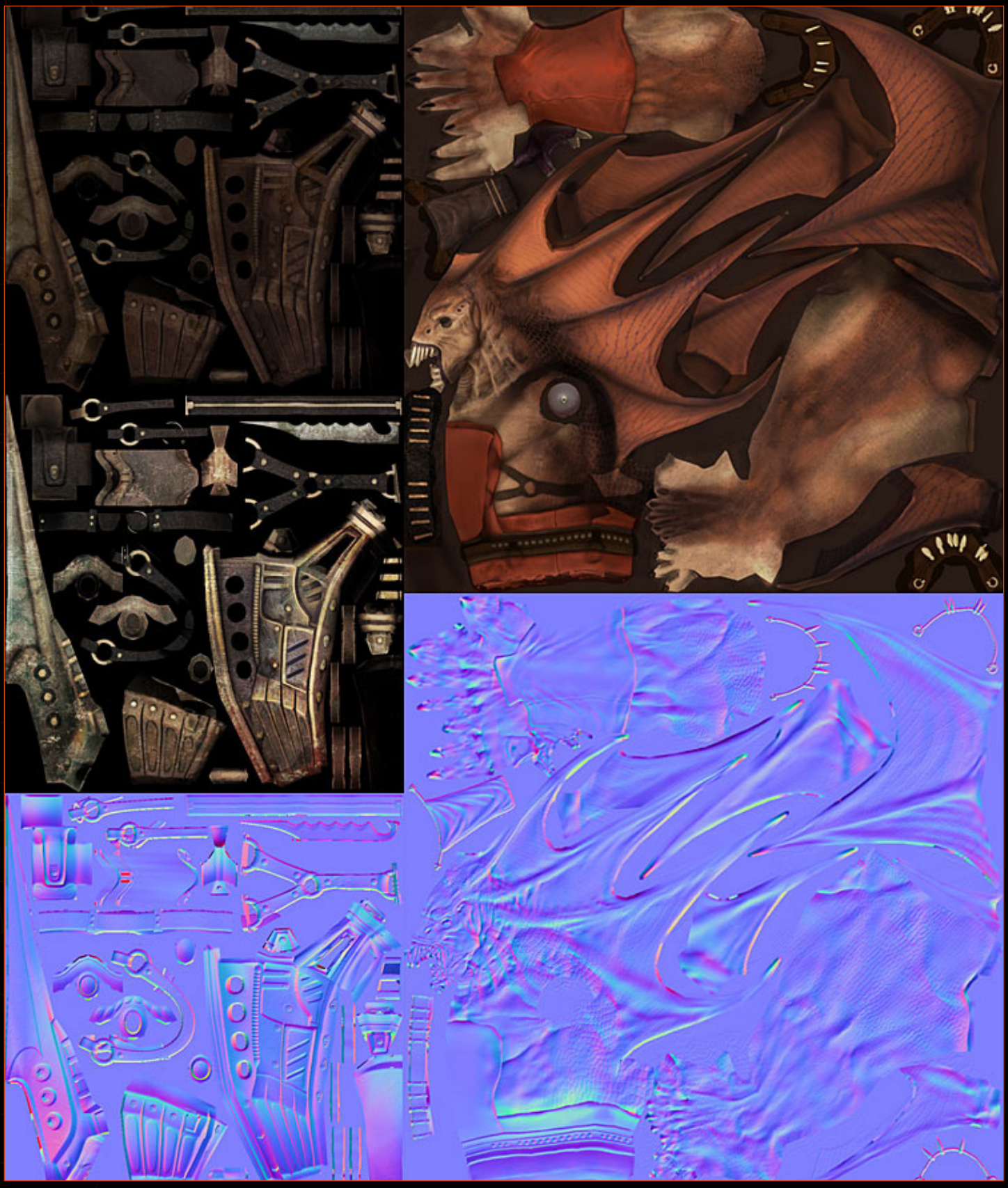
Tully: We both really liked the design as it was evolving. Compromises and revisions mostly came later when we realised the poly budget and especially the deadline wouldn't allow for some of the stuff we wanted to do. It was unfortunate, but these things do happen. During the competition I moved across the Atlantic and started a new job in the middle of Crunch. Those sorts of things have a way of making fun stuff more difficult.



MoP: It took a few false starts to get an initial concept that we both liked, but from that point everything went forward pretty quickly. Tully did some awesome anatomy and pose studies that provided a base for the creature, then we worked out what sort of clothing and armour he would have on top of that. When designing these sorts of things, I always think it's best if stuff looks like it works together, and gives some sort of history and depth to the character. Once we had the creature's background story down, all of the pieces of the concept just fell into place, with only small tweaks from that point onwards.

What's your secret to your apparent success? Background in art? Playing lots of games? In touch with your inner selves? If you can define it, what is it?

Tully: Doing lots of art. I love illustration in addition to concept art, and I almost always have some piece or another on the go. It doesn't matter to me that much whether or not it ever sees the light of day, but constantly



doing art is an important part of being good at it. You have to love it and it has to be a huge part of your life.

MoP: I think I'm just lucky when I hit on a good design. Most of my ideas come from reading a tonne of books. I find that, for me, it's often more inspirational than looking at art, because the descriptions can create entirely new imagery in my imagination, rather than being influenced more heavily by the way other people have portrayed characters and settings in their own artwork.

Do you both like being game artists, and why?

Tully: Of course! There aren't many other professions where you can work with the crazy and interesting stuff that games do. It's got its boring and tough bits, like everything else, but that's why they have to pay you. The job I had before this one was at a Staples in Calgary, so it's a considerable step up.

MoP: Yeah, it's really good fun. I enjoy the challenge of finding new ways to work effectively within constraints, and come up with solutions to workflow issues. And of course it means I get to make models and textures nearly every day. Practise makes perfect!

Why did you enter the Dominance War? And if you could, would you recommend similar 3D game contests to friends/aspiring artists? Why or why not?

Tully: I entered to have fun and make something cool. The prizes were an incentive, but with all the fantastic artists entering I'd be satisfied to simply make something I could be proud of. I'd absolutely recommend doing these competitions - it's impetus to actually finish something, and, even if you don't place, you'll still learn a lot and get your work out there. If you finish, worst case is you'll have another portfolio piece and tonnes of exposure, and that's never a bad thing!

MoP: I entered for the glory of Polycount! ... And because I hadn't done a character model in a while.

What would your advice be for aspiring game artists out there? What type of training do you think would be helpful in becoming a successful game artist?

Tully: Put the artist part first and the game second. If you have solid academic art skills, you should have everything you need to draw





from in order to do good game art. Software can be picked up fairly easily if you already know anatomy, colour, light, perspective, form, line, composition, and the rest. Make that the main focus, but also get on sites like those participating in the Dominance War, as there are tonnes of great individuals who will help you learn how to apply the art to games.

MoP: What she said. I wish I'd known that when I was starting out!

Besides finishing another fantastic entry for Dominance War II, do either of you have any other accomplishments you would like to share?

Tully: The most recent accomplishment was actually landing a job as a Concept Artist at Splash Damage, almost right out of school. I graduated from university last August. Things

have been going well and I can only hope there's more to come.

MoP: Yep, and Splash Damage will be releasing Enemy Territory: Quake Wars soon! It's fun and everyone should buy it. Buy it now!

Paul Greveson & Laurel Austin a.k.a. 'MoP & Tully'

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The Dominance War II

For additional details, please visit:

www.dominancewar.com

Or contact: Fredrik Hultqvist

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low poly game character

Downloadable Tutorial EBook

Introduction:

The original character of the Swordmaster was created by Seong-wha Jeong and we had 3DTotal's in-house 3d artist Richard Tilbury, re-create the character in 3dsmax as well as create the textures in Photoshop, in our new precise, step-by-step tutorial for highly polished, low polygon game character with detailed texturing for real-time rendering. We have also converted the tutorials into Cinema 4D, Maya, Lightwave and Softimage platforms. Even if you are not a user of one of them, the principles should be easily followed in nearly all other 3D applications.

The Swordmaster tutorials is spread over 8 Chapters which outline, in detail, the process for creating the Swordmaster below are the details.





Chapter 1: Modelling the Head
Chapter 2: Modelling the Torso
Chapter 3: Modelling the Arms & Legs
Chapter 4: Modelling the Clothing & Hair
Chapter 5: Modelling the Armour
Chapter 6: Mapping & Unwrapping
Chapter 7: Texturing the Skin & Body
Chapter 8: Texturing the Armour & Clothing

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To See or not to See

Guava Discuss VFX Trends

We recently sat down with Aron Baxter and Alex Catchpoole, two visual effects supervisors who bring much experience to their current day gigs at New York's Guava. Although they see good and bad today and in the future, both men are refreshingly optimistic about the future of VFX...

"More than ever, visual effects have moved into a realist phase. The best 'effects' are now largely invisible; they drive the story, and are not there just for impact."

To See or not to See

Guava Discuss VFX Trends



"It's a great time to be in the effects business," says Baxter matter-of-factly. "For one thing, what we do is gaining a higher and higher profile, particularly on television. Prime time television shows have been relying on visual effects for quite a while now, of course, but they are now starting to help drive the stories being



told. The effects are generally more subtle, more dextrous; they're not just cool decorations anymore. That maturation of effects is more challenging for us, but it's more fun as well." That maturation, according to both Baxter and Catchpoole, has manifested itself in effects that, though fantastic, are largely invisible to the viewer's eye. Ironically, the latest "look" is no look at all. "More than ever, visual effects have moved into a realist phase," says Catchpoole. "The best 'effects' are now largely invisible; they drive the story, and are not there just for impact. You can have something totally unreal happening, but the look now is realism." A case in point is Guava's recent work for Suncom Wireless, an AT&T affiliate that serves the Southeastern United States (www.guavanyc.com). As a woman flippantly contravenes her cellular provider's long distance regulations, a giant bird swoops down and carries her off. The strikingly realistic scenario is eased by the friendly form of spokesman Harry Connick Jr., who explains that while the scenario is not realistic, service would be less restrictive with Suncom. "The scenario could hardly be more unbelievable, but its execution makes it seem very realistic," says Baxter. "It's an utterly bizarre idea, but it is captured on film as if it just happened. That is what today's visual effects are like: very much of-the-moment, getting viewers involved so that they actually will suspend their disbelief for a moment. The effects are part of the story now, and it's just fantastic for us." In another spot, this time for Women's Health magazine, Guava used the same seamless effects style to strike a chord with all the women out there who are not fashion models. "Mean Magazines" has fashion and lifestyle magazine covers continually berating a woman as she goes through a typical day. Thanks to painstakingly particular lighting and penetratingly precise eyelines, the looks and comments of the airbrushed are disturbingly scathing. "It's a surreal spot, but it is accomplished in a very 'un-effects-y' manner," says Catchpoole. "The magazine just happens to be talking. The eyelines match up, and the reflections are all there, and everything works. It all seems very natural, and people don't see it as an effects spot, but it required a monumental amount of work to get that level of invisibility."





So Much To Do, So Much More Time



They say that time flies when you're having fun, so it's a good thing that Baxter and Catchpoole now see effects professionals with more time on projects. This reporter remembers thinking that, if God really did create the world in six days, he was probably thinking somebody would fix it in post on the seventh. "These days, God – or the director – tends to call us in at the storyboard stage," says Catchpoole with a smile. "We're definitely considered to be in more of an advisory role than in the past. We're very happy that effects have become such a vital part of production. We're an integral part of the process now, and directors and crews all understand that fact so much better than they used to. So we're in on the production from the beginning, and we're available for shooting and production advice straight through the project. It really is the best of both worlds." In two recent spots for tyre maker Goodyear, two pilots chat and champion Goodyear tyres while sitting in a Goodyear blimp. While a simple concept, there were a number of design and effects challenges for the Guava team. The scenes were filmed in a studio and a recreation of the blimp's outer shell was built. The Guava artists went on to create an extension to the shell and fashioned parts of the vent system and spinning rotor blades to add to the believability of the blimp's flight. There was also a multi location shoot and Guava had to create digital snow when the footage showed minimal snow. Guava was on board and advising the process the whole time. This ability to wear many hats was an advantage for all involved parties, and an important indicator of how ingrained visual effects has become in the production and postproduction process. Indeed, directors aside, the crews who once viewed the presence of virtual imaginations amidst the tangibility of live action sets with bemusement, if not contempt, are now revealing an understanding of the new processes of production, "Crews are getting used to us,"

confirms Baxter. “Every project, people who are used to dealing with live actors and elements are learning more about what we do and what we need. We’re better at dealing with them and they’re better at dealing with us and, at the end of the day, everything is much more efficient, not to mention friendlier.” The new altruism is definitely the reciprocal sort. Visual effects technology and the talented people who run it have greatly extended the capabilities of directors in ways that weren’t possible a few short years ago. “With our help, today’s directors feel far less restricted creatively,” says Baxter. “They can really push the envelope and be much more experimental. The technology now exists to tackle shots of all kinds, no matter how impossible. Directors can begin their shot in live action and then, with the help of 3D tracking and camera matching, they can literally take the camera wherever they want. Directors used to think we just fixed things that didn’t work; now they take us along for the full creative ride. We’re all able to do a lot more work in less time, which opens things up for more creativity, experimentation, and just plain play.” And it isn’t just directors who have woken up to the possibilities. Baxter and Catchpoole see a much more enlightened and discerning general audience out there; one that is growing more demanding by the day: “Part of the reason that we’re into visual effects in the first place is that we like to think freely about imagery,” says Catchpoole. “We tend to think beyond budgets and technical capabilities, and focus on coming up with the most creative look and feel for a particular shot. These days, we’re seeing a better and much more sophisticated response to the work we do. There is a greater embracing of abstract imagery in commercials these days. Audiences are very design-savvy, and that has changed the way everybody thinks about visual communication. People won’t put up with hokey, badly assembled effects anymore. Bad sequences are noticed by 12 year olds now, and posted to YouTube as something to be laughed at. That sort of attention has raised the bar significantly.” And speaking of YouTube, the increasingly democratic nature of technology is leading many people to speculations that they might be able to do it better themselves. Of course, there have always been those grandiose souls who believed they



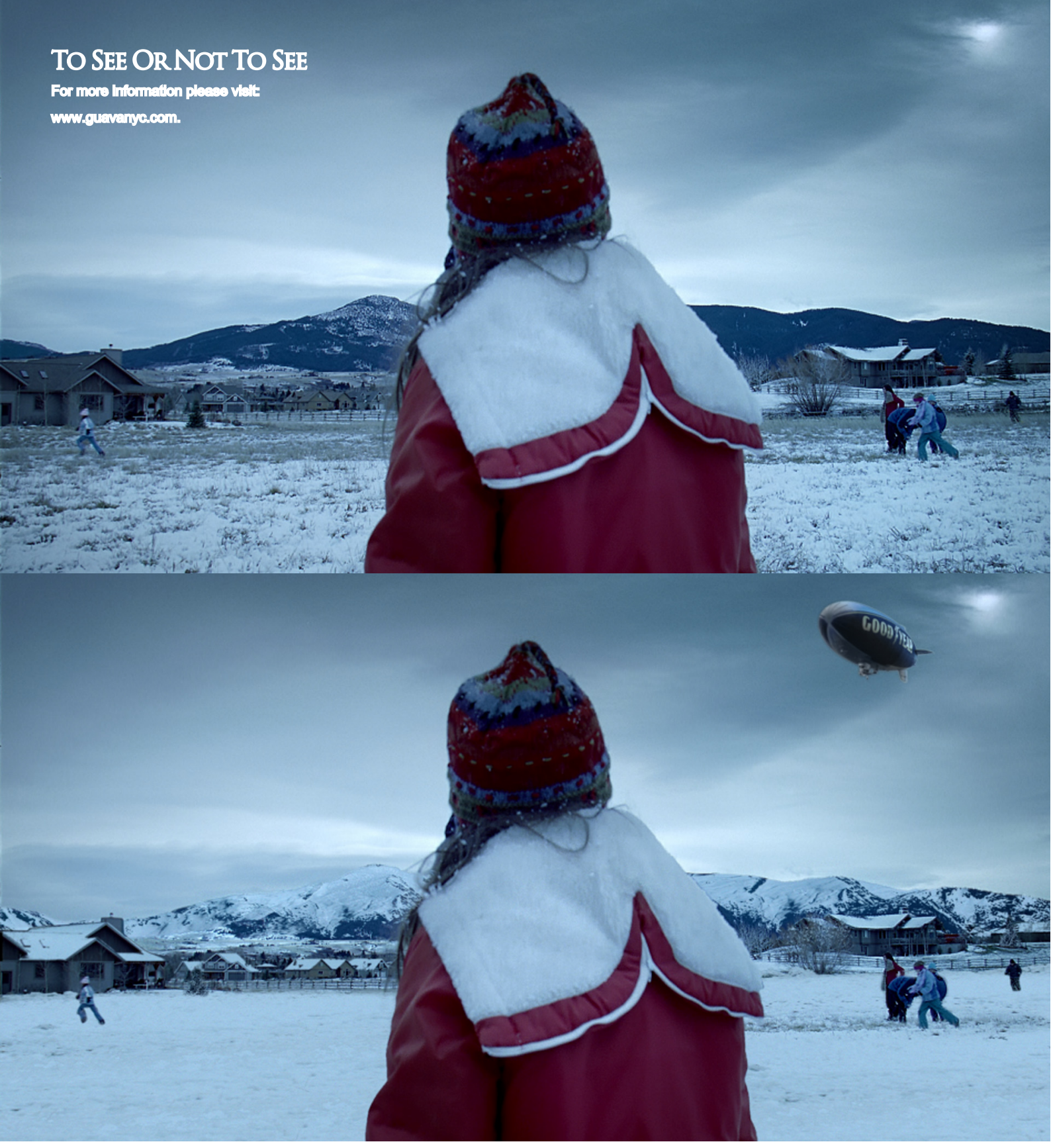


could do things better, but now, with upgrades in processing power and downgrades in price, they have the chance to prove it. That, say Catchpoole and Baxter, is something of a double-edged sword. “Just the number of desktop compositing systems has had an incredible ripple effect across the culture,” says Baxter thoughtfully. “Not so long ago, you needed very deep pockets to have a Flame or Henry, let alone the supercomputers they ran on, and that was the only way you could do broadcast quality work. There’s been a massive increase in speed and interactivity, and that’s changed the way work is approached and completed. Like anything, there’s good and bad aspects to that.” Asked to expand on his sense of the good, the bad, and the ugly in today’s creative work climate, Baxter is good-natured, but philosophical. “It’s great that more people have access to the technology,” he says. “Young people can learn a lot using AfterEffects in their bedrooms. We’ve found graduates who are already greatly experienced in the kind of thinking that lets us do what we do. Of course, that also means that the market gets diluted. A lot of people are thinking it’s enough to have the compositing software to do great work. At Guava, we have an entire staff to ensure that our work gets on to tape and distributed looking as great as humanly possible. Increasingly now, though, you’ll see commercials on air where the



composite looks good, but the rest of the scene is totally out of whack. With more and more people doing this kind of work, some are bound to get sloppy.” By nature and by training, artists like Baxter and Catchpoole are perfectionists when it comes to imagery, and too many cooks in the digital kitchen can definitely spoil the comp. With increased speed have come increased client expectations, but not always in terms of quality. According to Catchpoole, even in this age of HD, more and more work is being delivered as low-resolution Quicktime files, “The biggest problem with on-line deliverables is that all the positive things we’ve been talking about are accorded less importance,” he says. “Things like high detail, precise compositing, and photorealistic CG imagery don’t matter much because everything is being viewed on a low resolution screen and significantly compressed. The quality is lower than in the cinema or even the average television. Budgets get cut as a result, and as serious artists, it’s a bit demoralizing to create imagery that is simply ‘good enough’ for Quicktime. Our eyes and brains have been trained to do things at the highest possible quality. On-line media and podcasts are all low rez, which is a bad thing from an effects point of view. It’s just less important to do great work.” Catchpoole allows that increased bandwidth and new HD versions of Quicktime will definitely help stem the downward creative flow, but he’s unsure how quickly the popular application will be able to handle the massive amount of data required for uncompressed broadcast quality. At best, the delay will be frustrating. Equally frustrating for the Guava artists is what they see as a slow client acceptance of HD in general. “Some clients are still not embracing HD,” admits Baxter. “We think that is a shame. So much so, in fact, that we’re doing HD seminars at ad agencies, both here in New York and in places like Miami and Boston. We also point out to everyone that we don’t charge any extra fees for HD transfers, and we’ve added Autodesk Burn render farms to cut down on the render time and





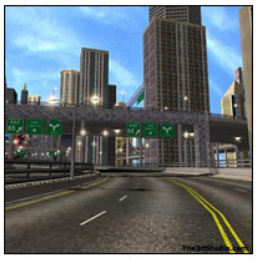
keep things fluid and economical. We can always keep working, so there isn't the downtime that there used to be with HD. I used to smoke, mainly for something to do during render times. I don't have to do that anymore, so it's improved my health as well." So far, the duo sees the widespread acceptance and lower price of HD television sets as a potential silver lining: "We love it when one of the agency directors buys a nice new high definition television," says Catchpoole. "The way things are now, TV shows are being done in HD, but not so many commercials. So the directors will be watching something in HD, and then see commercials in standard definition. The next thing you know, they're saying: why aren't we doing this?"

About Guava

Drawing animators, producers, designers, 3D and vfx artists from a global pool, New York-based visual effects company Guava is dedicated to making imagery for commercials and other media, such as music videos, film, and art installations, including work in the permanent collection of MOMA . To supplement its experimental thinking, exploration, and open collaboration, Guava continues to invest in powerful, cutting-edge technology to make sure the results are not only stunning to look at but are delivered on time.

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THE 3D STUDIO

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SemoLogic Creates Cinematics for “God of War II”

International Animation Studio Reprises Role for Sony’s Popular Game Franchise

“...The ex-Spartan warrior, Kratos, has transformed and sits atop Olympus as the new vengeful God of War.”





LOS ANGELES—In its most creatively and technically ambitious project to date, SemoLogic has produced cinematics for this year's most eagerly anticipated game title, Sony Computer Entertainment America's (SCEA) God of War® II, exclusively for the PlayStation®2 computer entertainment system. The fully CG cinematics, which both precede and appear at critical junctures within the game, rival a blockbuster feature film in terms of their production value, subtle characterizations and dramatic force. Picking up where the original God of War® left off, the cinematics introduce the new game's storyline in which the ex-Spartan warrior, Kratos, has transformed and sits atop Olympus as the new vengeful God of War. SemoLogic, which has production facilities in the United States and South Korea, also produced cinematics for the original God of War game, which captured more than a dozen "Game-of-the-Year" Awards, including the prestigious Academy of Interactive Arts & Sciences "2005 Overall Game of the Year Award," following its release by SCEA in 2005. The new cinematics go far beyond the original in terms of their scope and their large number of characters and environments. They also attain a level of photorealism never before seen in game cinematics. "God of War II differs from other games in that it relies more on cinematics to illustrate the story, and those cinematics are a more integral part of the gameplay," noted SemoLogic creative director Jong Bo Kim. "We are proud to have helped SCEA take the medium to the next level and provide players with a richer, more immersive experience." SemoLogic employed a team of more than 75 artists and support personnel on the project. Rendering required some 340 CPUs spread across three render farms. The total project size exceeded 4TB. The cinematics also feature a rich original music and sound design track, and an all-star voice cast headed by Academy Award-winner Linda Hunt as Gaia and Christopher Lee as Zeus.



SemoLogic teamed with SCEA's creative staff in translating the game's storyline as well as its characters and environments into a cinematic form. The cinematics begin where the original God of War ended with the apparent death of Kratos at the hands of Zeus. But players quickly discover that Kratos has eluded death and, with the help of Gaia, has set forth to himself become God of War. The characters within God of War II are composed almost entirely of Gods and Titans based on the brutal world of Greek mythology, whose unusual physical attributes and outsized personalities posed unique challenges to SemoLogic's team of character animators. "Gods are different from humans and that is reflected in a subtle way through their facial expressions," Kim noted. "I am especially pleased with the way the animators were able to show Kratos' development as he transforms from a mortal Spartan general into the God of War."



Among Zeus' key attributes are his long flowing white hair and beard, said Kim. "It was very difficult to make lifelike," he said. "Similarly, some of the cloth simulations were challenging as many of the characters are dressed in long robes and appear in strong winds. The Titans were also hard due to their enormous size." The most difficult character of all was the Titan Gaia, who takes the form of a tropical island. The character's face, though flexible, appears to be hewn from rock. Her head is also covered with vegetation, rivers and waterfalls, and wildlife. "With so many objects attached to its surface, the data size was huge," Kim observed. "She was more like an environment than a character, yet she needed to speak and move in a realistic manner." The cinematics are packed with visual effects, including clouds, fire, smoke, dust and various forms of water and energy ways. There



is also a blue tornado that emanates from Zeus' hand and is filled with clouds and dust particles. Production for the mammoth project was divided between SemoLogic's Los Angeles headquarters and its two production studios in South Korea. "Although a good portion of the production took place in Seoul, the producers, creatives and technical staff met weekly with Sony's staff to review progress and discuss any obstacles that may have come up," Kim said. "Our pipeline is set up to accommodate international production and it allows us to collaborate in real-time, despite the distance and time difference." In total, the production of the cinematics spanned nearly 18 months. Kim, who founded SemoLogic in 2002 after completing work on the landmark feature film Final Fantasy: The Spirits Within, expressed satisfaction with the results. "We were able to further develop the photorealistic style we have been working on since Final Fantasy," he concluded. "This project also gave us an opportunity to build a stronger foundation for the company by developing new technology and production know-how, and by nurturing artists. Our most important role, however, was to assist SCEA and to help it achieve its vision." SemoLogic is located a 5455 Wilshire Blvd., Suite 700, Los Angeles, CA 90036.









About God of War II

God of War II brings players back to the violent world of Greek mythology where they last left the vicious ex-Spartan warrior Kratos atop his godly throne as the new God of War. In God of War II, Kratos must journey to the far reaches of the earth and defeat untold horrors and alter that which no mortal, or god, has ever changed: his fate. God of War II sets an epic stage for a devastating mythological war to end all wars. Armed with the deadly blades and blistering rage, players will be aided by new breath-taking magic and new brutal combat moves. The journey will take them through vividly striking environments where they will be faced with a labyrinth of challenging puzzles and mini-games intricately woven into the story. The violence will come to life in gory detail as Kratos encounters new mythical characters, and competes in epic boss battles in his quest.

God of War II

For more information please visit:
www.semologic.com
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THE GALLERIES



This Month we Feature:

Eduardo Martin Julve

Mark Bannerman

Damien Canderle

Jeremy Roberts

Hao K. La

Sébastien Legrain (a.k.a Sebcesoir)

Romy Tesei

Nicolas Lesaffre

Alessandro Baldasseroni

Nicolas Lesaffre

& Jean-Charles Schaeffert

Wrestling Fighter

Eduardo Martin Julve

http://www.theposmaker.com

edu@theposmaker.com







ROOT

Romy Tesei - http://www.teseiromy.com - info@teseiromy.com

You can follow an in-depth interview with this artist in a future issue of 3DCreative magazine...





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kehaola@gmail.com



Spider-Man 3

Jeremy Roberts

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JPR001@gmail.com

Don’t miss an in-depth interview with this artist in the July Issue of 3DCreative Magazine...



THE MONKEY'S TALE

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— *Sam Cole, FUEL*

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the 3DC challenge

In Association with CONCEPTART.ORG THREEDY FORUMS

3DCreative Magazine introduces the new 'Challenge' Section of the mag. Every month we will run the Challenges, available for anyone to enter, for prizes and goodies from the www.3dtotal.com shop, and to also get featured in this very magazine! The 2D Challenge runs in the conceptart.org forums, and the 3D challenge runs on threedy.com. Here we will display the winners from the previous month's challenges, and the Making Ofs from the month before that...



Anteater

Stylised Animal challenge

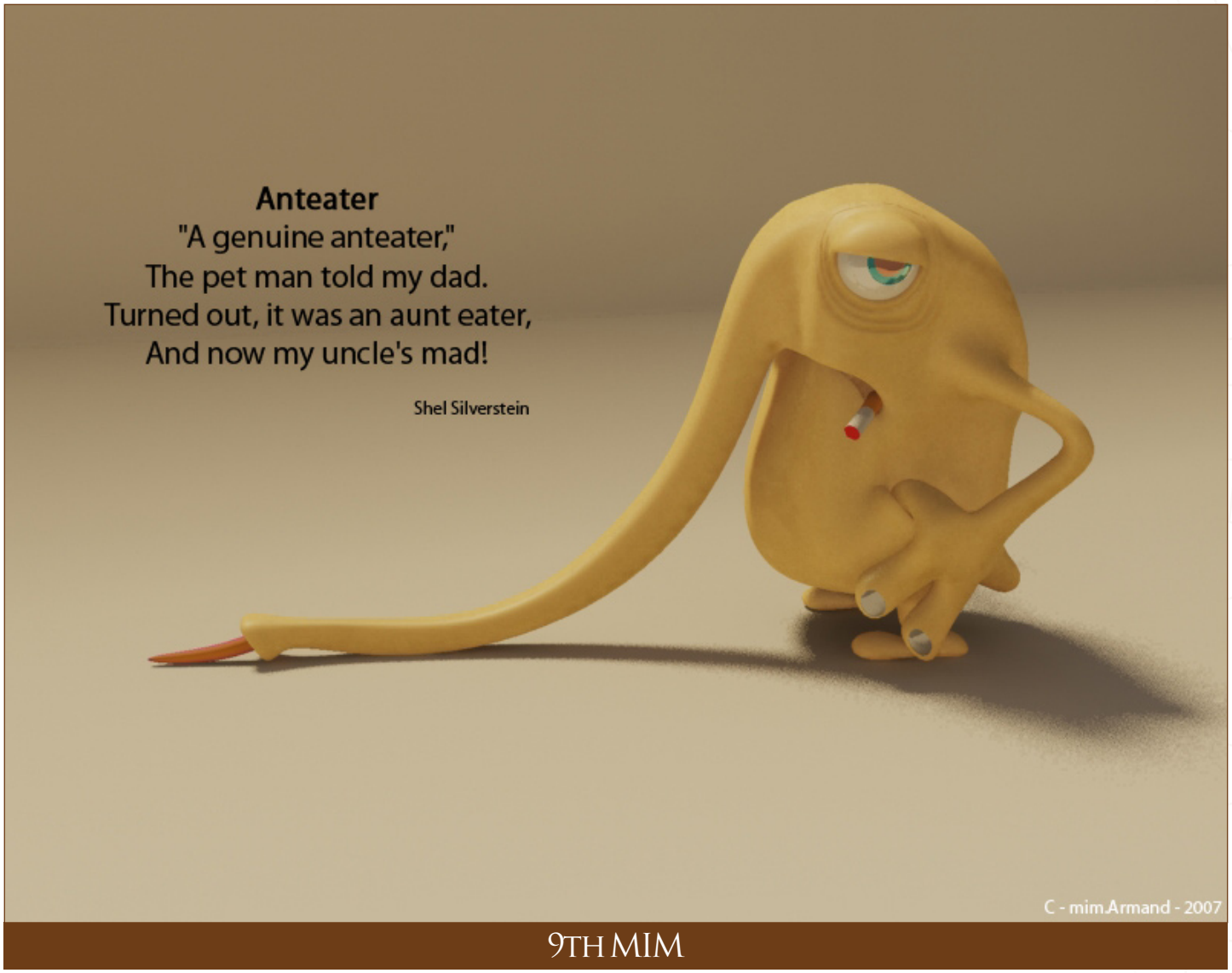
Stylised Animal Challenge
Anteater

The Challenge

Welcome to the Stylised Animal Monthly Challenge. Each month we will select an animal and post some images in the Forum Thread as reference. All you have to do is to create a 3D image of this creature in a stylised/abstract/cartoon style, whilst keeping your creature instantly recognisable. We wanted to publish some content in 3DCreative Magazine on how to create stylised animals, such as you see in the many feature films and cartoon galleries. We thought this regular competition might bring in just the images/Making Ofs that we need, whilst giving away great prizes and exposure. If it grows in success we will boost the prizes up as much as we can! This month's animal was the 'Anteater'. Here you can see the top 10 entries, as voted for by the public...



10th Ha-Jassar



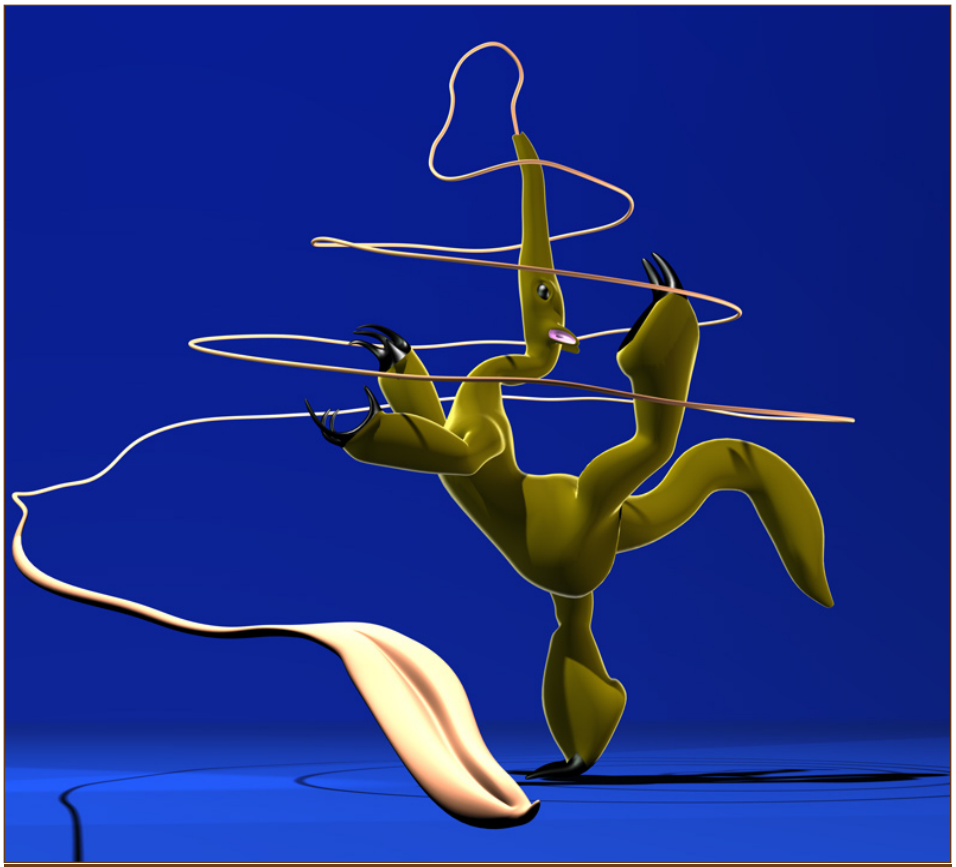
9th MIM



8TH LUUME

WHAT ARE WE LOOKING FOR?

Funny and humorous entries which break the animal down to its most recognisable components; emphasise these in whichever ways you think best, and render your stylised/ abstract/cartoon masterpiece. The rules are pretty laid back: please submit 1 x 3D render (minor post work is OK); it's up to you if you want to have a background; include some graphical elements or text on your image. Renders of the 800 pixel dimension sound about right, but the winners will be featured in 3DCreative Magazine, so if you can create some higher resolution images too, then all the better! There will be one competition per month, with the deadline being the end of the month (GMT). For a valid entry, just make sure your final image is posted in the main competition thread before the deadline. We require the top 3 winners to submit Making Of overview articles that will be shown on either 3DTotal or in 3DCreative Magazine. These need to show



7TH SIEGE



6TH SHAHIN FJ



5TH EXEM

the stages of your creation - different elements and some brief explanation text - of why, and how, you did what you did. We will format this into some nice-looking pages to give you some great exposure, and us some quality content. Each competition will have one main thread which starts with the brief at the top. All entrants should post all WIPs, give feedback, and generally laugh at the crazy ideas that are emerging each month...



4TH KOEK



CHALLENGE THREAD

The entire ANTEATER competition can be viewed here.

The current challenge at the voting stage is:
SNAIL

The current challenge taking place is:
MONKEY

To join the next challenge, or to view previous, and/or current entries, please visit:
www.threedy.com
Or, for the 2D Challenge, please visit:
www.conceptart.org
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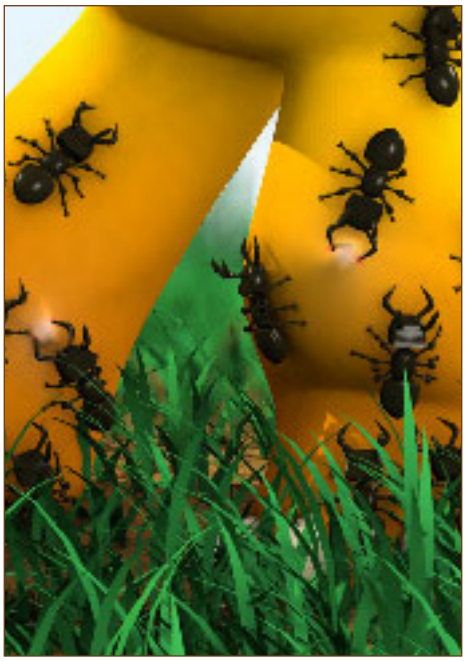


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1ST SACEK arthursacek@yahoo.com.br









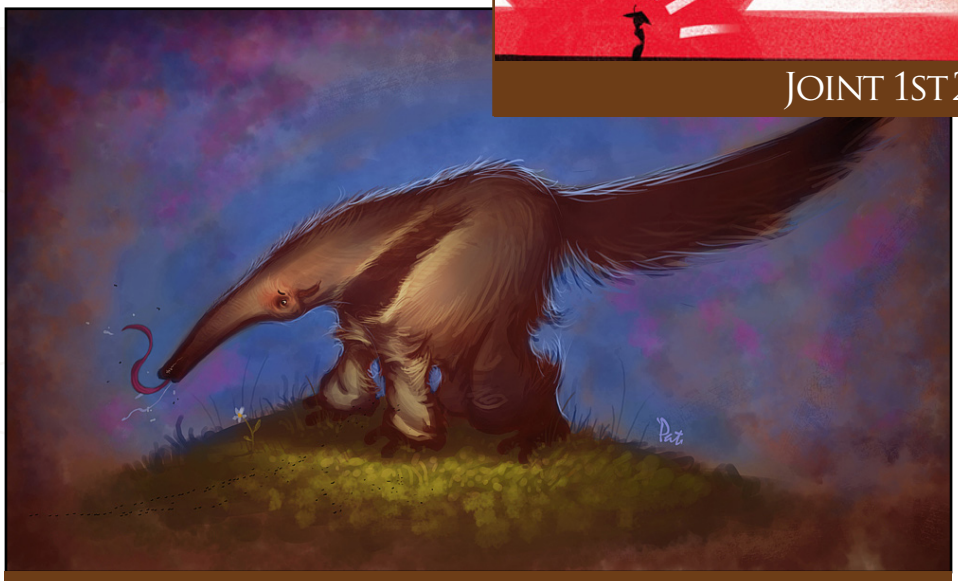
JOINT 1ST ANDREWANN

2D CHALLENGE

Here are last month's top entries from the 2D competition...



JOINT 1ST 28TH WING



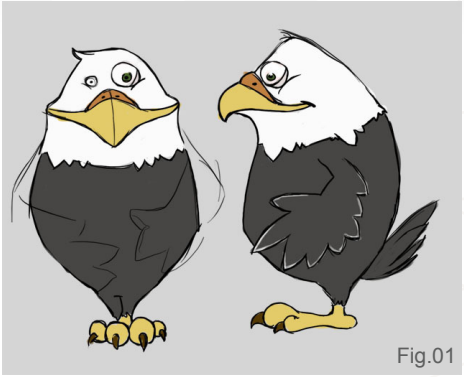
JOINT 1ST CHUCK, MATE

Making Ofs

Here are the Making Ofs from last month's top 3 winning entries...

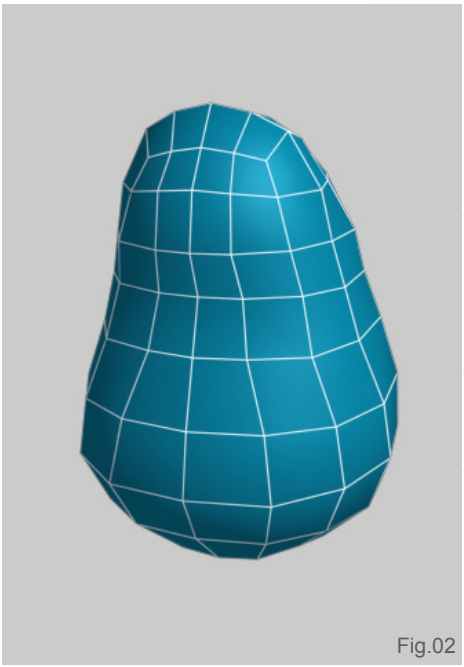
3rd - Galero

I didn't have a clear idea about the concept my eagle was going to take. I basically started from zero, with no idea in my head about what I was looking for at all, just with a pencil and a piece of paper. But all I knew was that I wanted some really funny animal as the scope of the competition, that more or less looked like an eagle. I eventually ended up with this concept (Fig.01), which was just a starting point because I never stick to my original concept 100%.


Fig.01

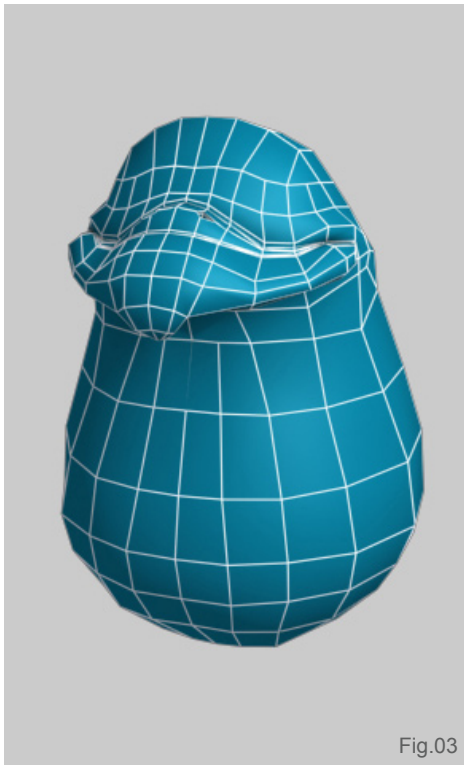
After having a clearer direction in my head of what I wanted to achieve, I started the first modelling process in 3D Studio Max. For the first step, I started with simple box, and, with poly modelling, I roughed out the overall shape of the body and head (Fig.02 - 03).

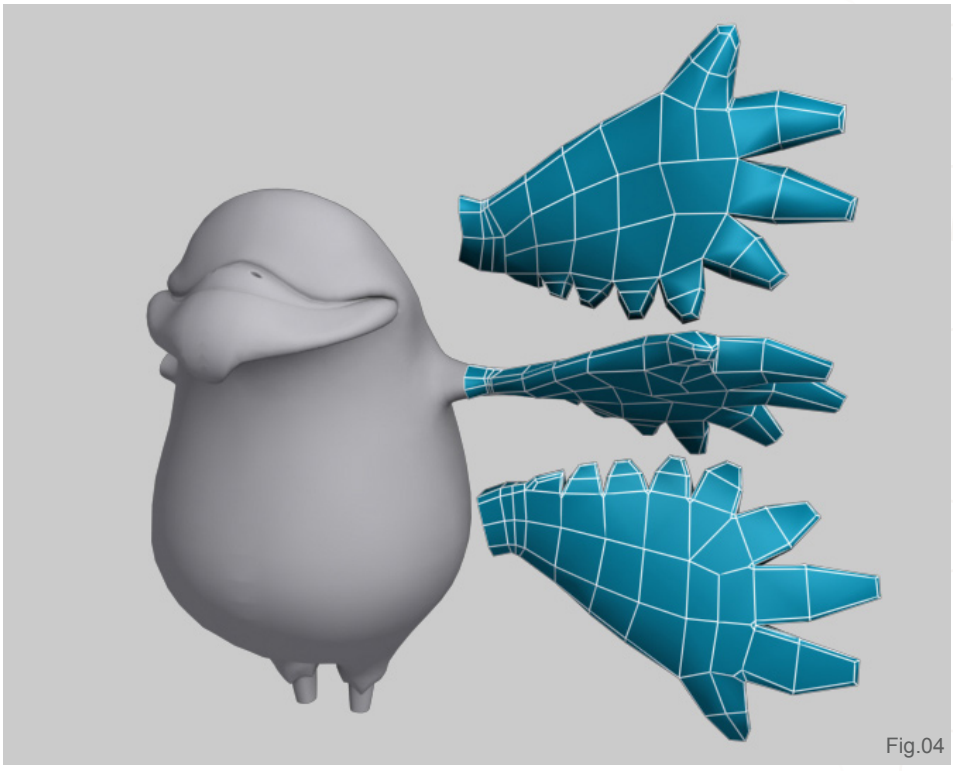
My idea was to create an eagle with a kind of Danny DeVito silhouette (there are many images of him to be found on the Internet). Happy with the overall shape of the body, I then started modelling the peak. In this step I wanted to achieve a really funny and friendly look, which is why I tried to give him an "always smiling" beak, as best as I could. Done with his butterball body, head, and peak, I could then move on to the wings and feet.


Fig.02

I started with the wings by extruding some polygons from the place where the wings should be, and then detached those polys. A trick that I use which allows me to work much more easily, is to always separate different parts of my models (head, body, legs, arms, and so on), in order to have more control over them (Fig.04). I modelled the feet using the same method as used for modelling the wings (Fig.05).

After giving him wings and feet, I then moved to work on the on the tail (Fig.06).


Fig.03

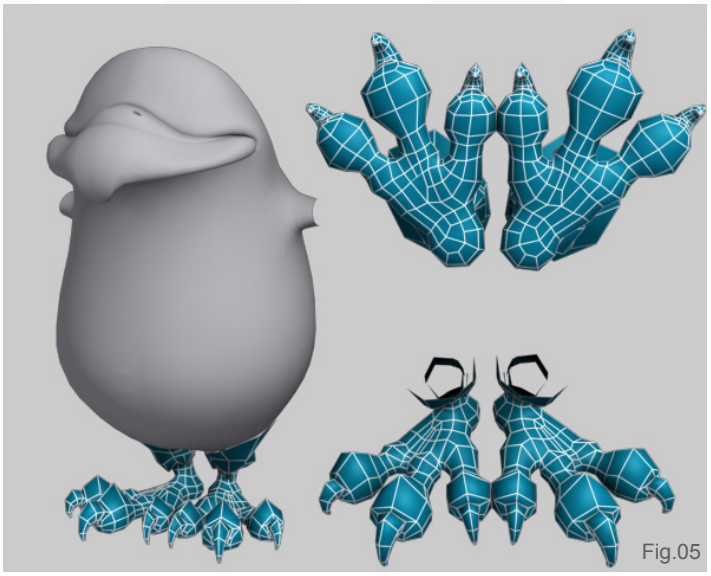

Fig.04

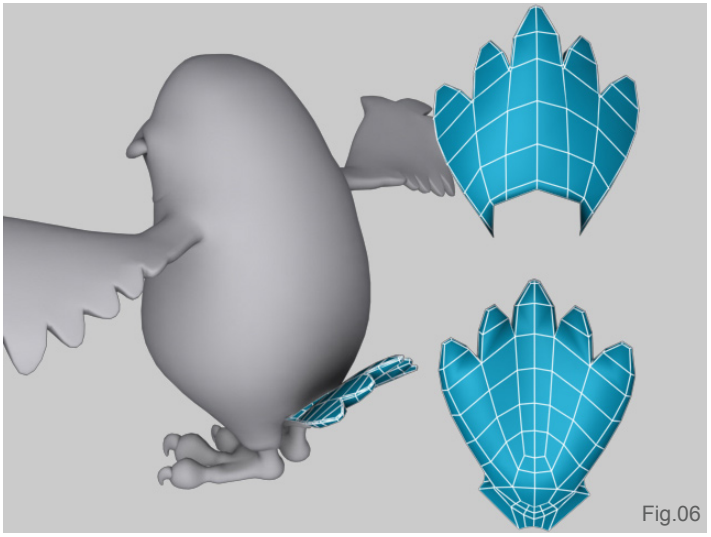
When I finished modelling the different parts, I attached them altogether and then had a more or less finished model. One last thing that I did was to try and break the symmetry through elements like the eyes, and the feathers on the neck (Fig.07).

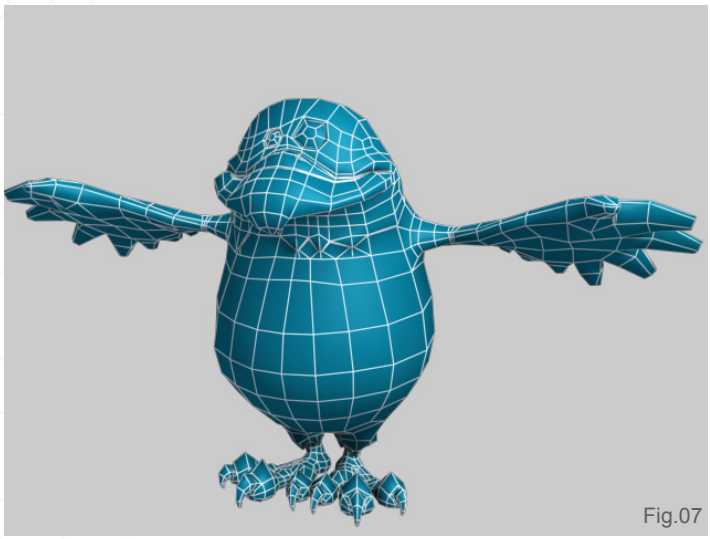
The next step was to start mapping it. This was a really boring thing to do, which makes me quite aggressive, and so I won't say too much about this stage, except for mentioning the fact that I used pelt mapping for this part (Fig.08).

When I had done with the unwrapping I moved to Photoshop, where I painted the Diffuse map (Fig.09).

I was trying to keep it as clean, and as simple, as possible. As long as this character was not meant be animated, and just posed, I was able to rig it very quickly using Character Studio (Fig.10).


Fig.05


Fig.06


Fig.07

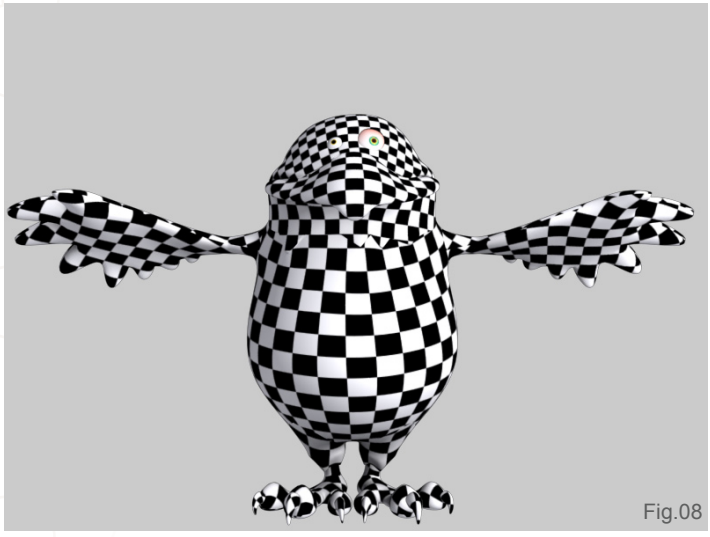
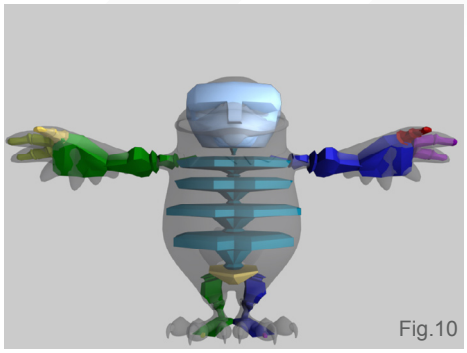

Fig.08


Fig.09


Fig.10

I had some problems with the envelopes on the wings, so I posed them very roughly - collapsing all, and then moved some vertexes with Soft Selection.

The final material was pretty simple. Besides the Diffuse map I also added a very fine noise on the Bump and Specular level, and a Falloff for self-illumination.

For the final render I used VRay, one yellowish Directional light, and one blue Omni light placed beside the character. I began by rendering an Occlusion map (Fig.11) to make the whole render much softer, and laid it over the top (Fig.12). Some fast background, brightness and contrast tweaks, and that was it (Fig.13).

I hope you've found this Making Of useful, and that you have enjoyed reading it.

Borislav Kechashki

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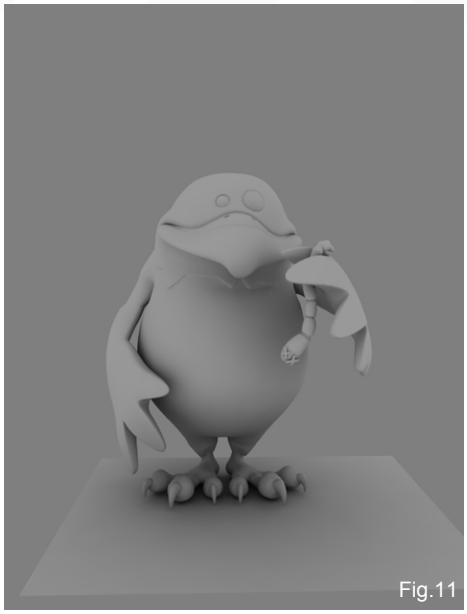

Fig.11


Fig.12


Fig.13

2ND - AUTHENTIC

CONCEPT

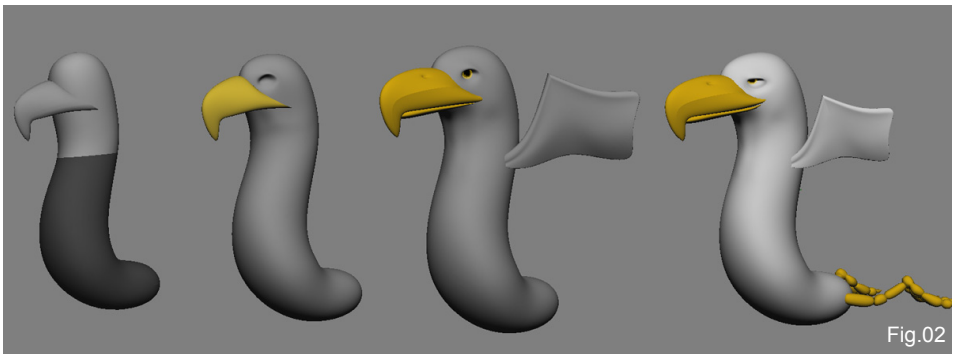
I had never made any birds before this eagle challenge, and so, thinking about feathers and other difficulties I would face, I thought it would be a great exercise for me...

When talking about eagles, the first things that come to mind are their majesty, and their height. In a way, an eagle is like the King of the sky. It was evident to me that a typical eagle would be arrogant, a bit shady, and even a little naughty. However, I decided to do the opposite of this typical version of the eagle, because I wanted him to be tiny, weak, and maybe even old, with small wings. I also quickly decided that he would be flying - in a way that was more scheming than simply flying - and be very cool, serene, and not especially strong in his pose. I made a quick sketch based on all these factors (Fig.01).

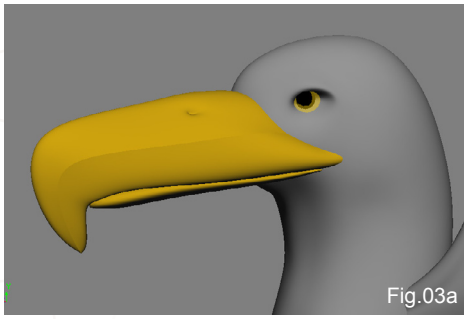

Fig.01

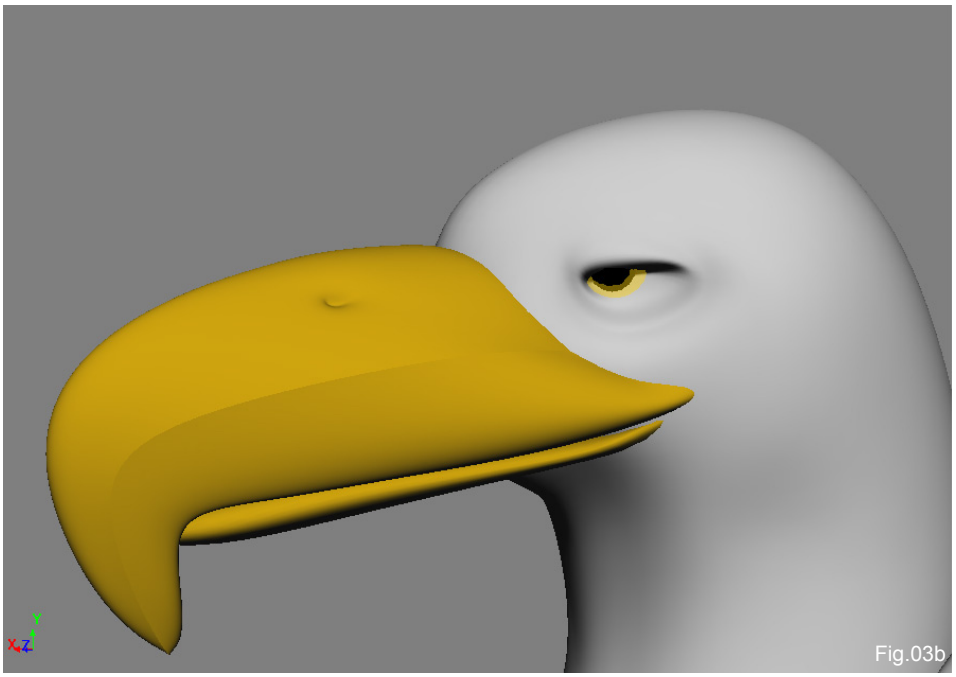
BODY MODELLING

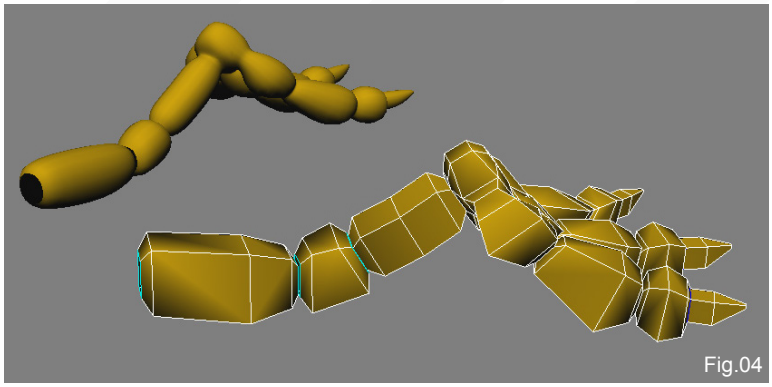
First I made a very sausage like body, which was surely the simplest body I have ever made. It was simply an extruded cube, because I knew that there would be feather and fur masking all of the little details that I could have made. And so, with that in mind, I focused upon the main form only. Along the same idea the wings were also modelled at this point, so that I could get a feel of the proportions. You can see the modelling progression in Fig.02.

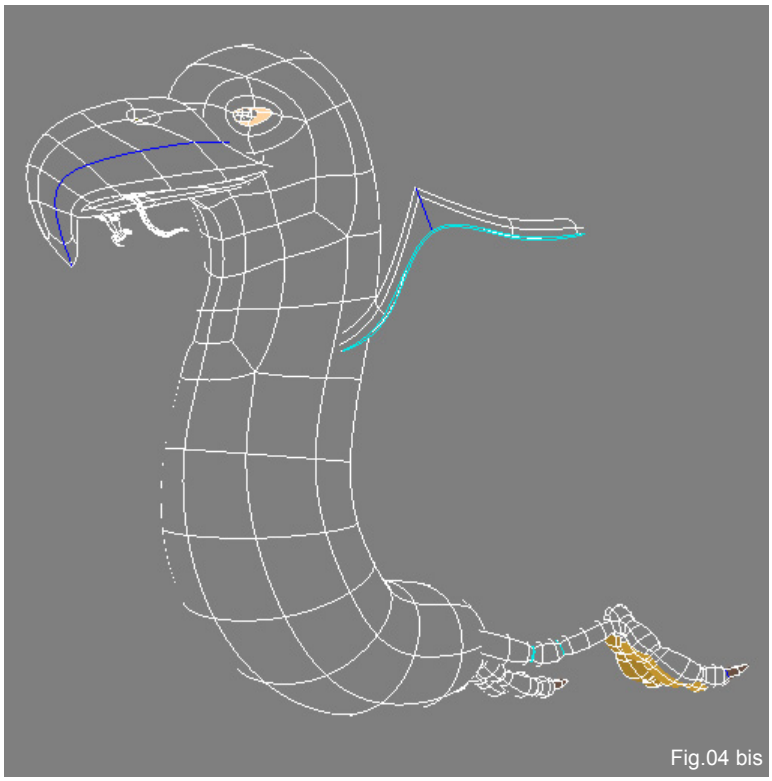

Fig.02

I concentrated mostly on the head. In my original design the eagle had a long, straight, inexpressive beak and opened eyes. I firstly modelled it as in Fig.03a, but I didn't feel that


Fig.03a


Fig.03b


Fig.04


Fig.04 bis

he truly looked like an eagle with this design. His body was very different from an eagle's, as were the wings, and so I thought I should try to create more of an "eagle look"...

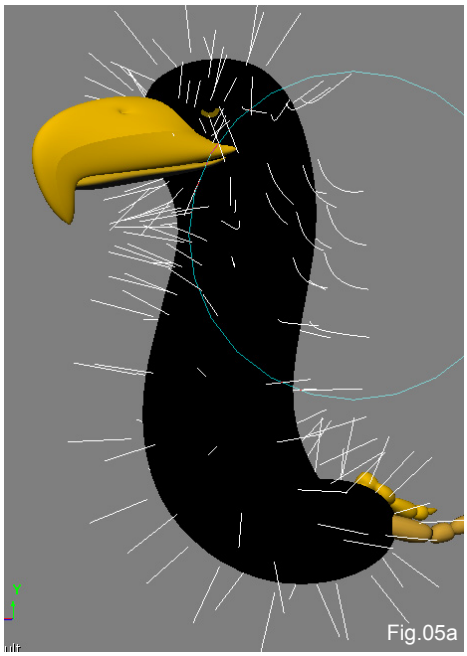
I therefore rounded the beak a little, and gave him a tiny smile. I also changed the eyes to achieve more of a more malicious expression (Fig.03b). This changed his personality a bit, but it became even more interesting and looked more like an eagle after these changes.

For the legs and feet I wanted something really special here - a bit like those types of toys that very young children try to overlap. I then simply added the claws, which was, once again, just box extrusion and smooth (Fig.04). For the final picture I had to change the original position of the back leg to give a better impression, and to not break the silhouette. However, if you rotate the camera, this leg is completely separated from the body.

Finally, the modelling was very fast and simple. There were only 1000 polygons for the eagle (Fig.04 bis), but the difficulties weren't here...

Making the Fur

All the upper part of the head was made with real fur in XSI. I like using fur in this software because it's really fun, and you can achieve something really interesting in just a few steps. First of all you have straight hair (Fig.05a) which you adjust with a brush along the body (Fig.05b). Then you can start to work the shading, which has its own parameters (Fig.05c).
You can then paint on the body - where you want to have the


Fig.05a

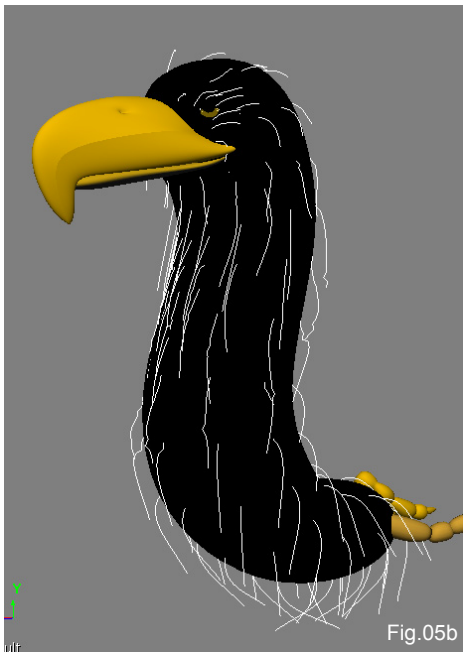
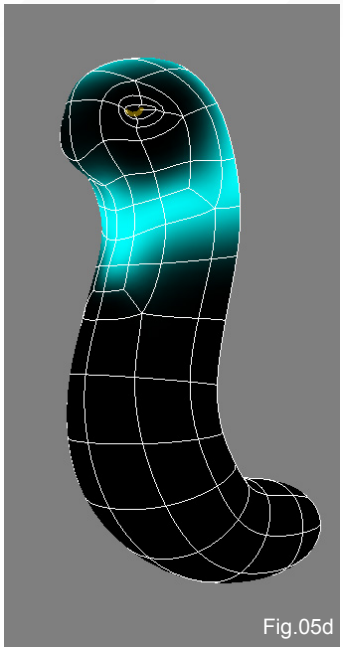
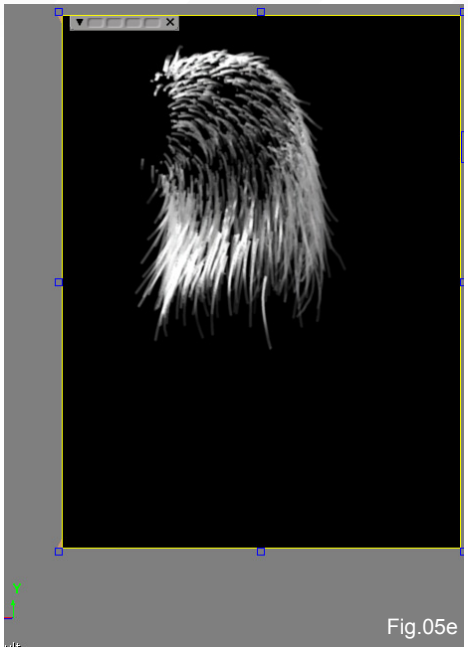

Fig.05b


Fig.05c

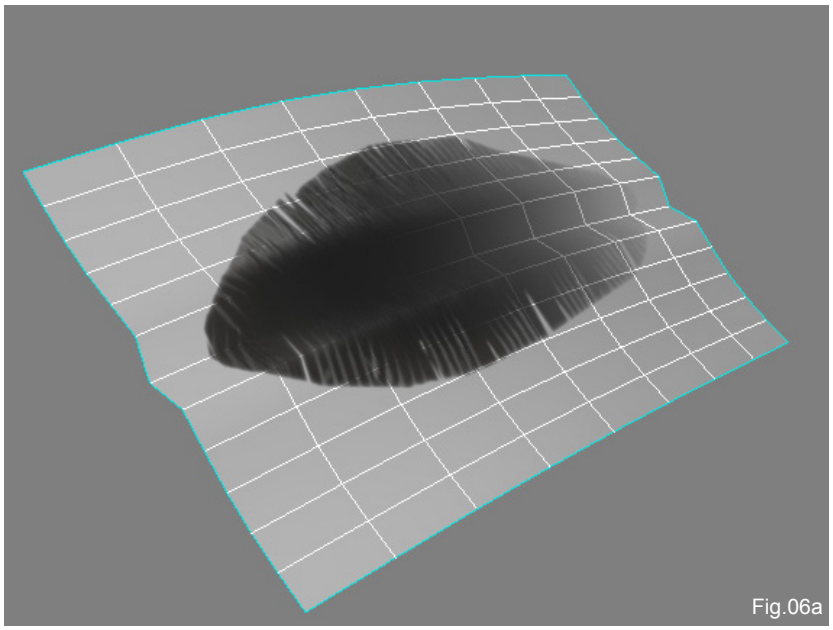
fur - with weight maps (Fig.05d). This is all very quick, but the big work is when you want those fine details to obtain what you were looking for. Fig.05e shows what I created by brushing some fur and removing some other parts of the fur, to achieve this final fur effect (Fig.05e).


Fig.05d


Fig.05e

The Feather Challenge

When I start an illustration I often try to have something new which I can learn through it. Feathers were, for me, the artistic and technical challenge behind this picture. I tried many ways to achieve this, and to have something rather stylised, yet believable. What I finally did was use to use different textures; mainly a Colour map, an Opacity map and a Bump map (very low power). All of these maps were made in Photoshop and were kept quite simple to keep a cartoon style to my work. These maps were textured on a plane (Fig.06a) which was a little curved at its centre so that it would be highly influenced by the lighting. When I made the final material (Fig.06b) I added a gradient opacity to the top of the feathers to achieve a better integration, and to avoid problems of penetration. I also removed the body of the feather because it drew too much attention away from the rest of it. Then began the long and boring placement of the feathers, even though I had tried in many ways to avoid this step. For example, I tried to use my feather as an instance on particle system, or hair, but it was too messy, or just plain ugly. So I had to place them one by one. I also used the lattice which I had on the original feather. As for the wings, making little feathers at the top and then bigger ones at the end, was long and very messy (Fig.07). I therefore only put ones that could be seen from the camera's point of view, which meant 84 feathers in total. Thankfully, I was pretty happy with the result.


Fig.06a

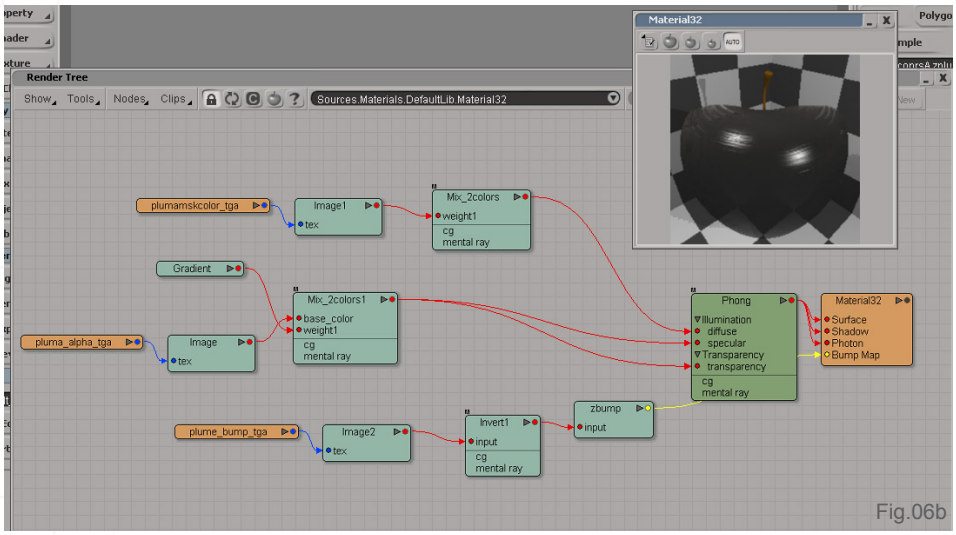
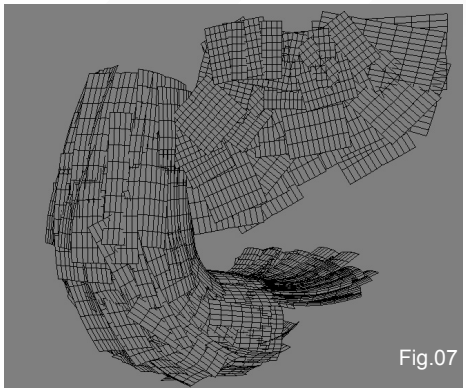


Fig.06b

Adding the Little Mouse

The idea of the mouse in the beak came after the last stages modelling the eagle. I thought it would be really funny and would greatly improve the quality of the picture and the understanding of the eagle. It was quite difficult to achieve though, because the mouse would be very small in the picture, so my problem was in how to make it recognisable... Firstly, I only did a tail, but at a first glance everyone just saw a worm. So, based on my friend's advice, I added the head on the other side of the beak. It had to be


Fig.07

really caricatural to be instantly recognisable, so I made big eyes, a nose, and gave him some white whiskers (Fig.08). Finally, even thought it was only a very simple character, this mouse was perhaps my favourite part of the illustration.

Colours, Shading, Lighting

At first, I didn't want to do a classic black and white eagle, and so I started to make a white eagle - but I found it to look to much like a seagull. Moreover, these white feathers gave him an angelic impression (Fig.09a). I then tried a black one, but he looked too much like a crow (Fig.09b). Finally, I made the black and white version, which was so much better! For the rest it was simple, even though I used a very personal technique. Because I wanted something smooth, I added many self-illumination to the materials so that they had less variation due to lighting. In regards to the lights, there were just a few used: a dome light, and a main light coming from the top left of the picture to have the main direction and shadows (very low). There was no Global Illumination or Final Gathering used in the scene. Something

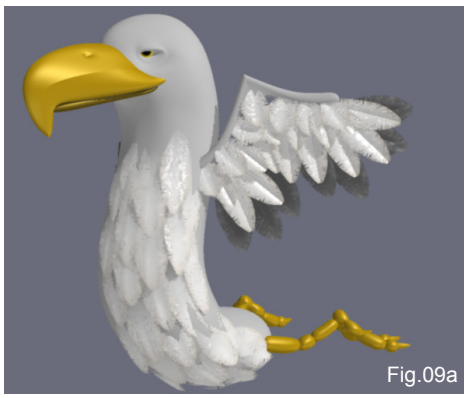
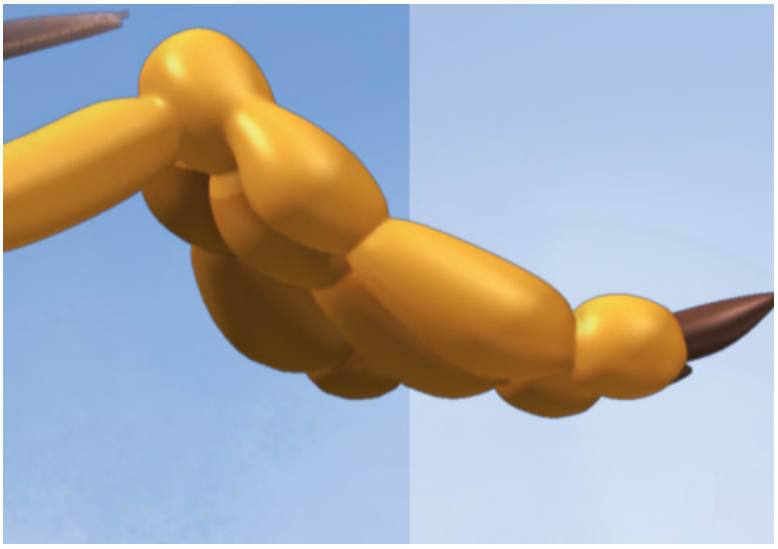

Fig.09a


Fig.08


Fig.09b

interesting about the foot though was where I made each toe darker as it moved further away from the camera. If I hadn't have done this, the volume just wouldn't have been clear (Fig.10).



Compositing & Tweaking

For the rendering, I rendered a large picture - nearly 4000 pixels in size - because I was pretty happy with this image. I also had an Occlusion pass (Fig.11). All parts of this render were taken into Photoshop where I composited them (using Multiply mode for the Occlusion pass). I then chose the colour of the background, which I knew would be simple because the eagle was high up in the clouds. I therefore made it blue so that it would be brightly lit. I then added some small, random clouds using specific brushes. As the star of this image was the character, I only painted a few clouds. Finally, I tweaked a lot of the detail in the image - changing the form of wing and removing some fur. I also found a technique to simulate Sub Surface Scattering on the mouse's tail, by painting on the border of the tail with the Lighten mode. Because my layer transparency was locked, it has sort of light diffusion. I Then just added the 2 bands of colour to the canvas to give a well-presented final image, and I was finished.



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1st - Papusmash

Concept

My initial idea, after hearing the topic of competition, was to make a young and fat eagle, and to make him totally crushed by his two brothers in their nest. Unfortunately though, I didn't have enough time to make this idea come true...

Because of the time constraints, I decided to concentrate on the simplest idea, and to realise, what we call in France, a "Tanguy" (the title of a famous French film). A Tanguy is a person who can't make up his mind whether to leave his parents and his cosy nest.

After I knew which direction I was going to take, and knowing that I would only have one eagle to create with this new idea, it seemed much more realistic, and so I was ready to start...

Graphical Research

I like to draw and always do my research for reference images before drawing a single line, but for this project everything came from my imagination - I didn't do any graphical research at all.

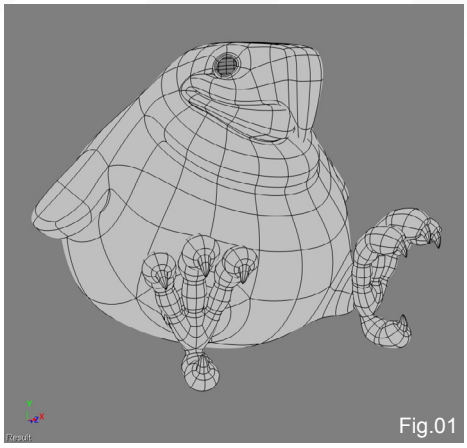
I started directly by modelling the picture that I had in my mind, however I don't recommend anybody to work like this, as it's easier for a project to stop before its end this way.

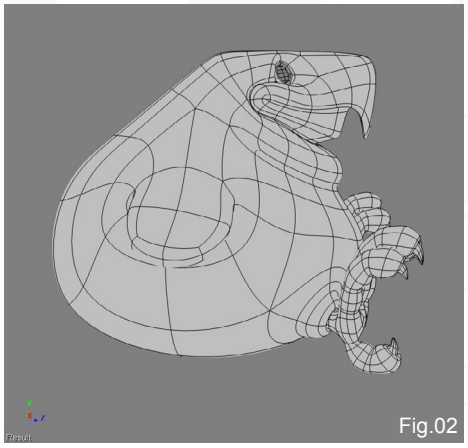
Modelling

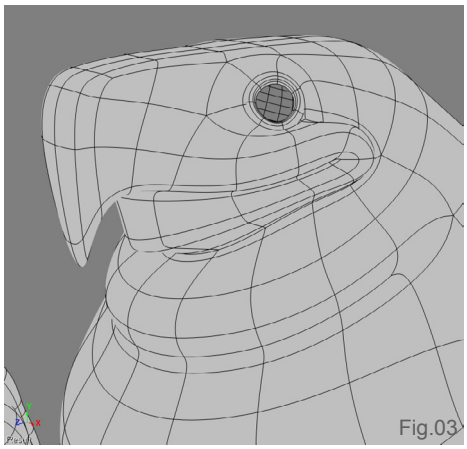
The body, nest and rock were quite easy to model. The real problem however was in trying to find easy solutions for the feathers...

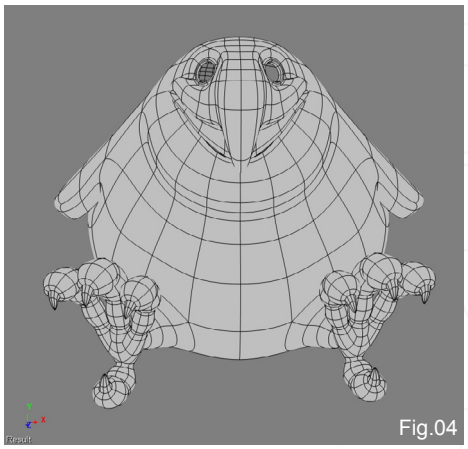
The Body

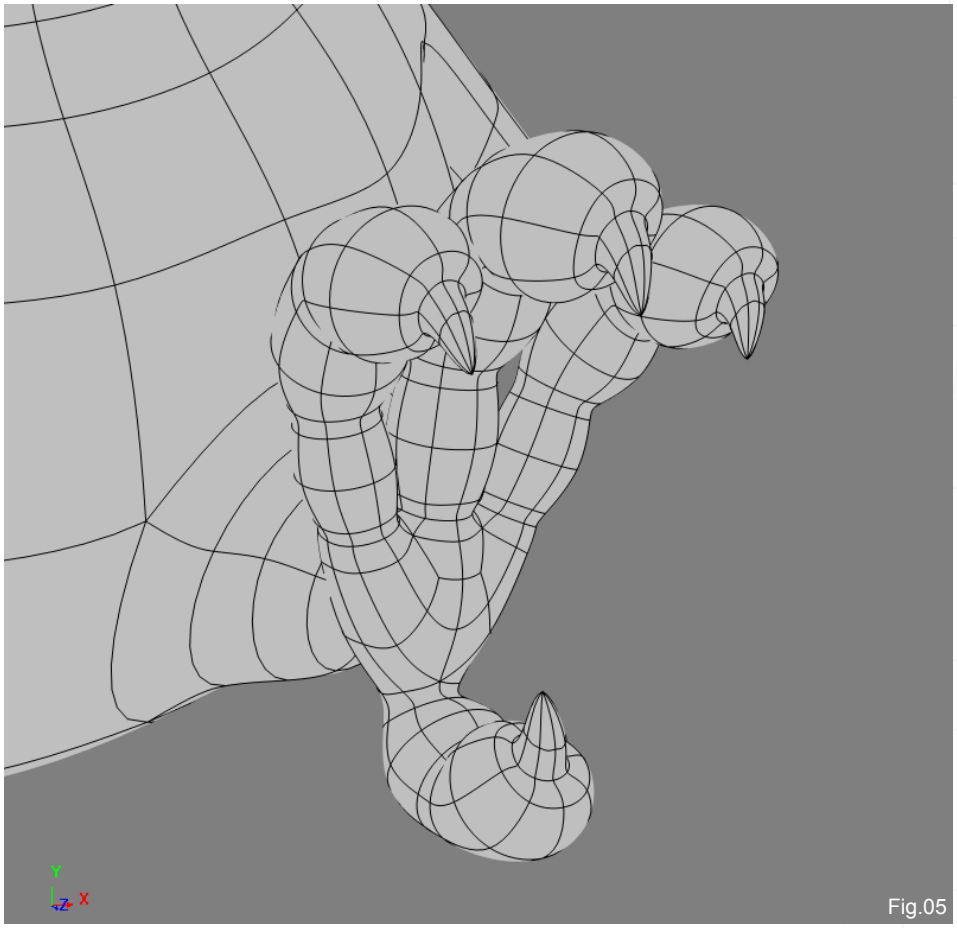
What makes an eagle look like an eagle are his beak and his legs. I therefore amplified the sizes of these characteristics to make my eagle instantly recognisable. This also gave him a more foolish look.

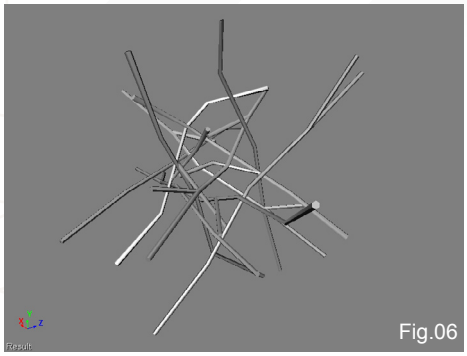

Fig.01

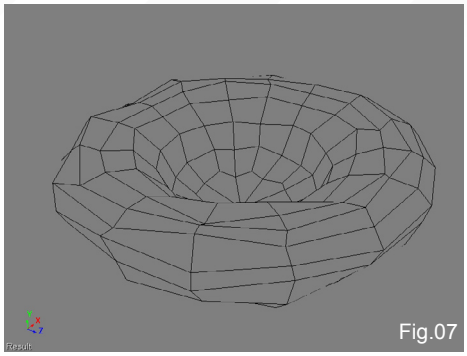

Fig.02

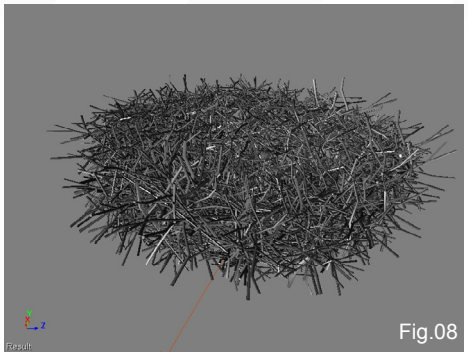

Fig.03

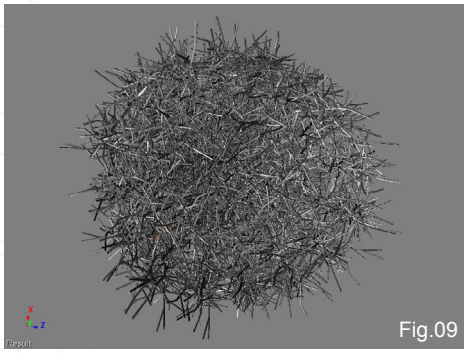

Fig.04


Fig.05


Fig.06


Fig.07


Fig.08


Fig.09

The rest of the body was completely covered by feathers. The modelling was only a base which gave me the shape of the eagle as a reference to build upon. (Fig.01 - 05).

The Nest

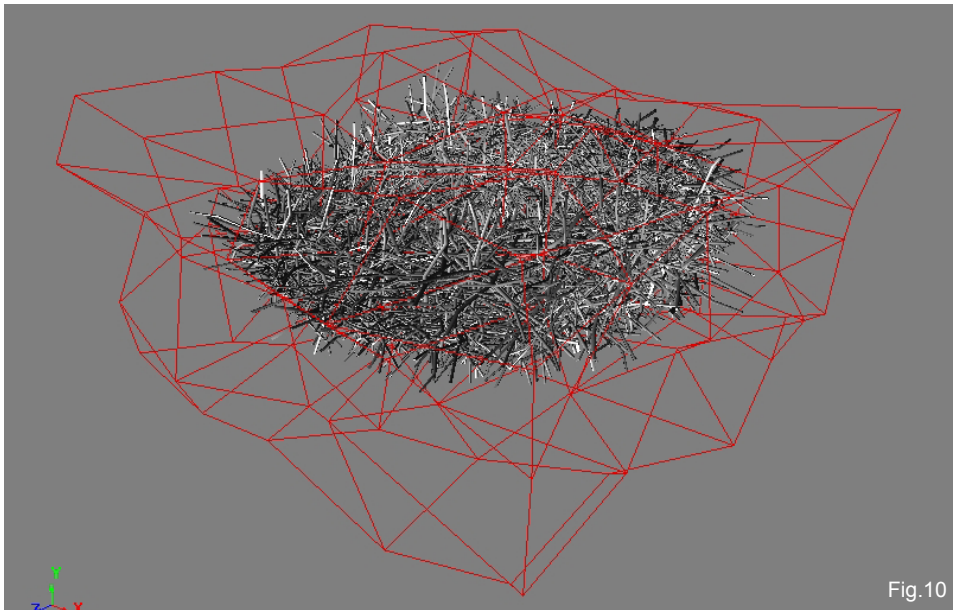
For the nest, I first created four to five low-poly twigs that I gathered together. I also modelled a basic shape for the nest. Next I used the XSI scatter to share the twigs on the low poly nest. To break up the repetitive aspect of the scatter a little bit more I simply used a lattice with a shape jitter deformer (Fig.06 - 10).

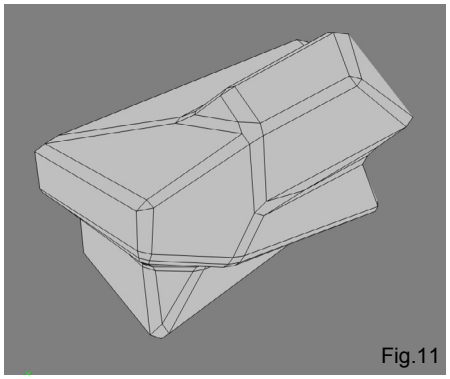
The Rocks

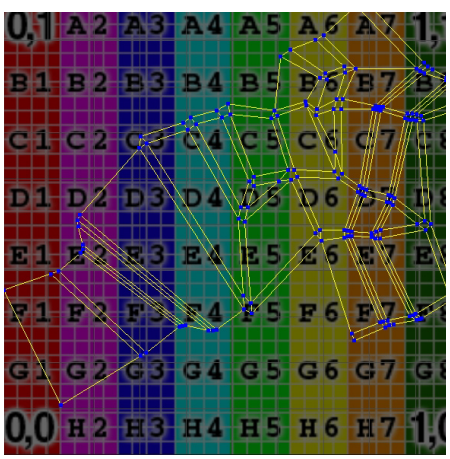
I modelled only one rock and duplicated it twice. Then I rotated, scaled and adjusted the collisions of the three items. In this part the most important thing was to unfold the UVs properly to avoid any stretched textures (Fig.11 - 13).

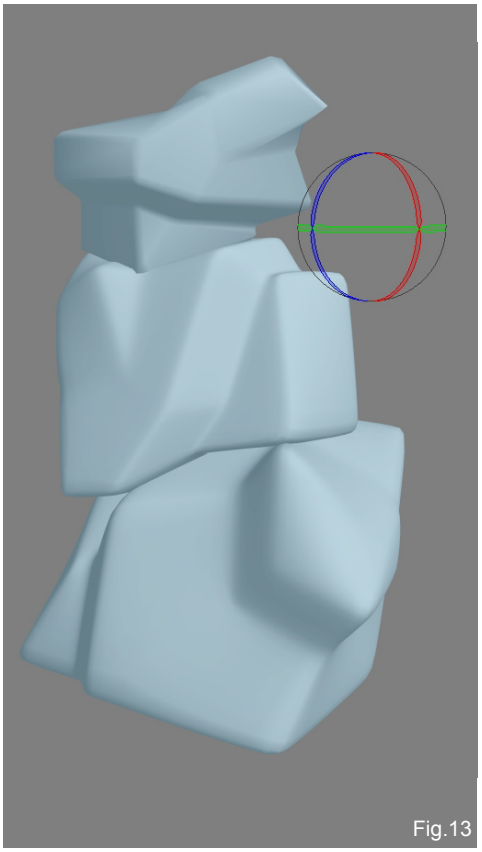
The Feathers

To make the feathers I used the XSI hair from curve parameter. I created curves and picked them to define the hair shape. Here I drew five curves to achieve a feather-like shape.


Fig.10


Fig.11


Fig.12


Fig.13

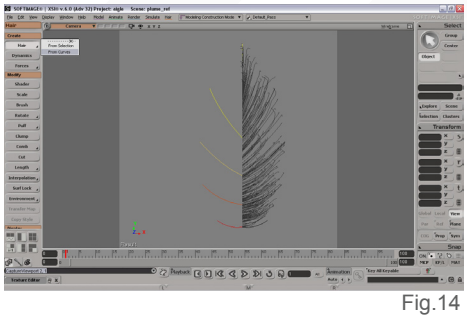


Fig.14

The feathers weren't made with hair. The render times would have been too long, and in a fixed image it would have been useless. I extracted an Alpha layer from my "hair feather" and used it later in Photoshop to create my feather's texture.

Then came the boring and repetitive part of this project. I placed - one by one - all of my feathers (275 items) with 4 x 4 grids, onto which I applied the Alpha layer.

I use the Shrink Wrap deformer to flatten my grid against my eagle's body. The result wasn't perfect, but I had to finish the work and moved vertex by vertex (Fig.14 - 18).

Rendering

For the rendering I use Mental Ray's Final Gather, which was simple, fast and gave good results.

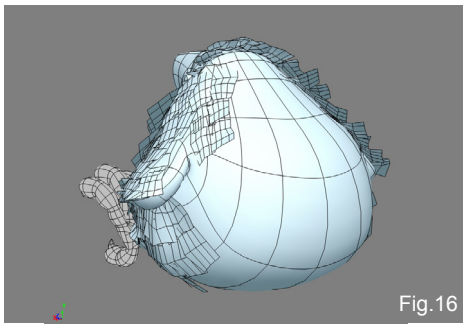


Fig.16

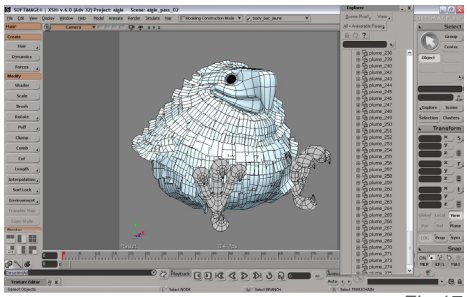


Fig.17

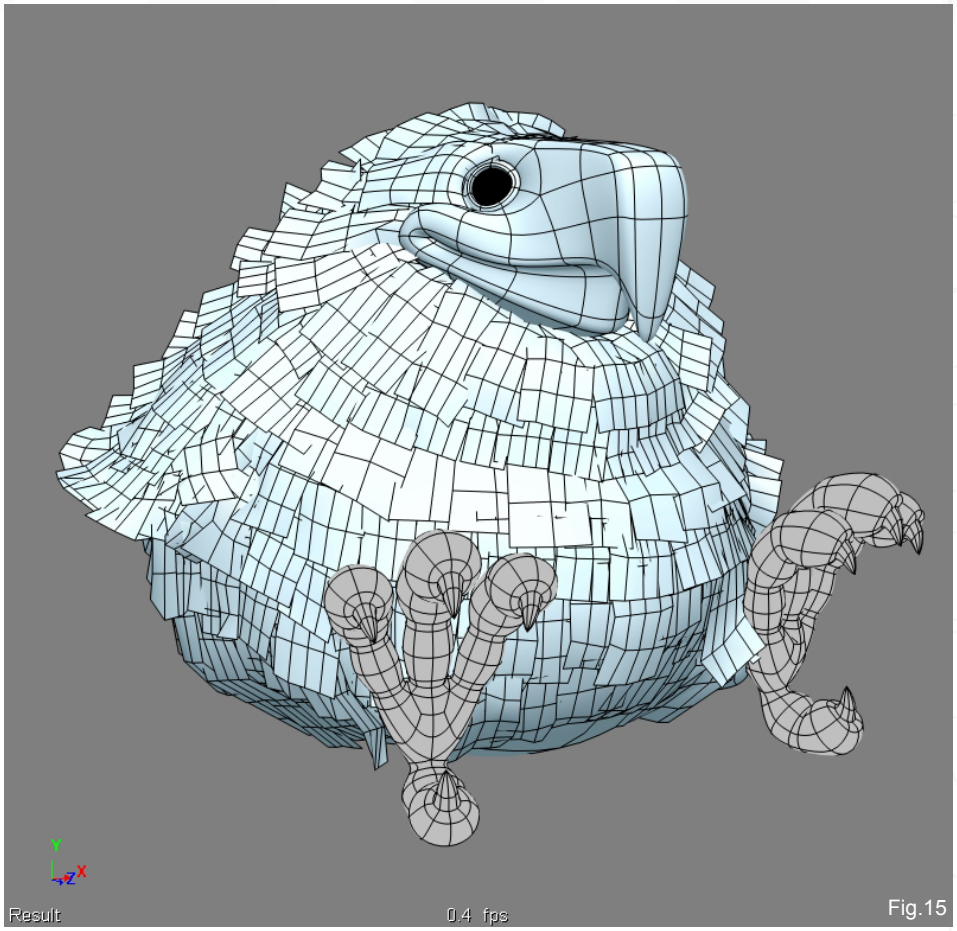


Fig.15

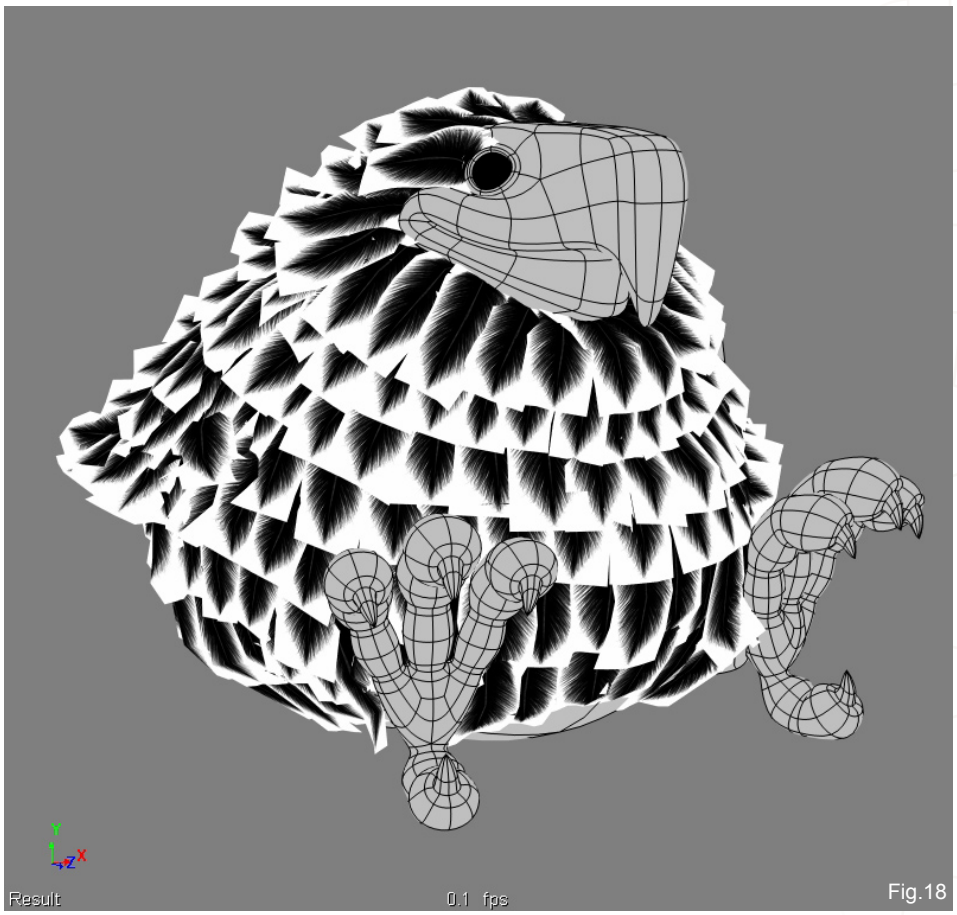


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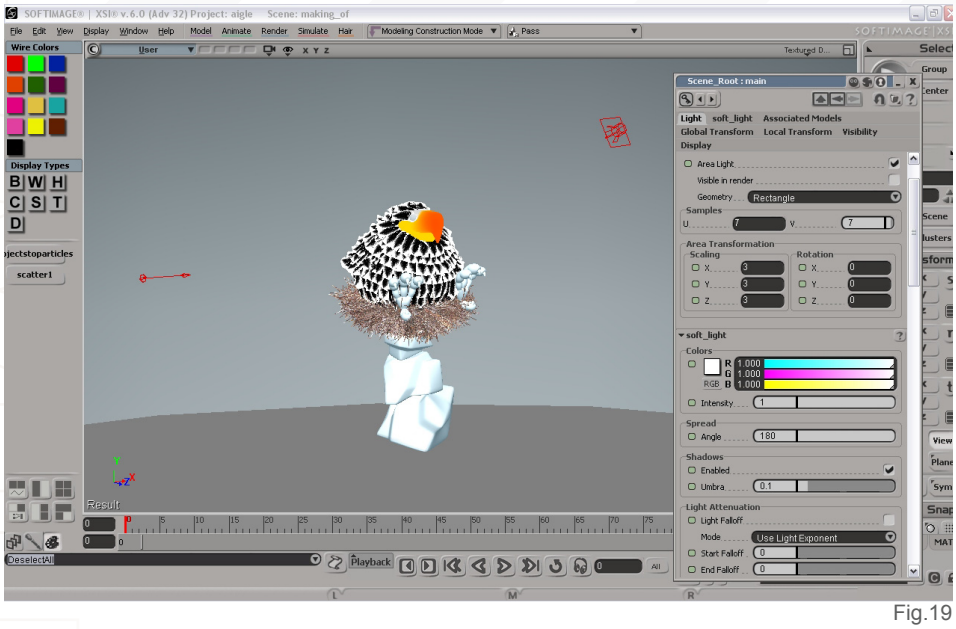


Fig.19

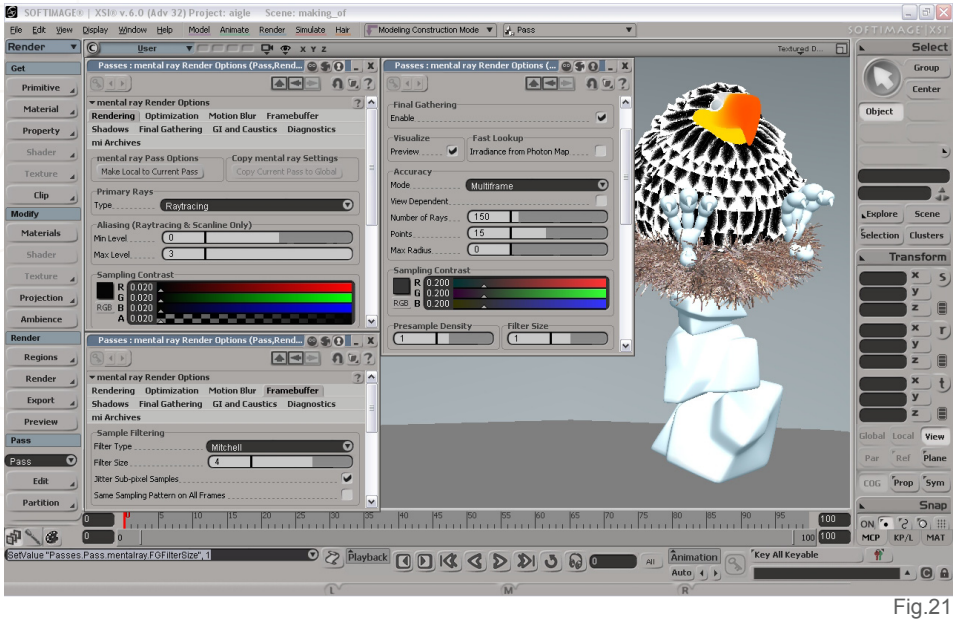


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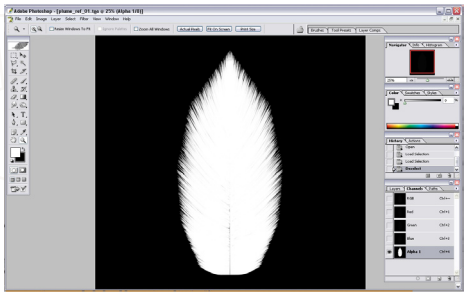


Fig.22

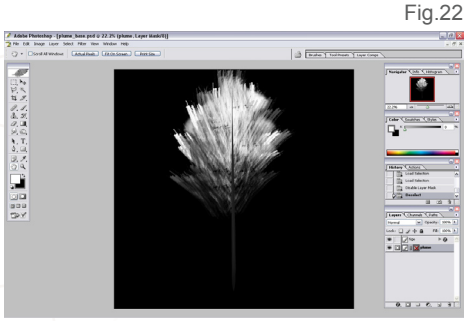


Fig.23

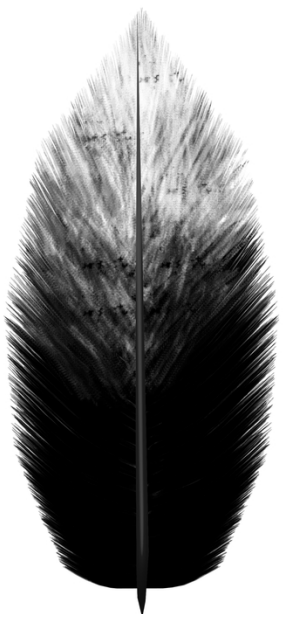


Fig.24

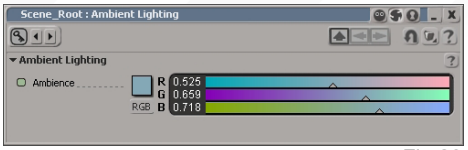


Fig.20

My lighting setup was also quite simple. Only two lights, and a geometry dome which made the light rays bounce, were used.

The main light was an Area light to achieve soft shadows. The back light was a simple “infinite” (Fig.19). To lighten the shadows I turned my scene’s ambient colour to a blue tint (Fig.20).

The render settings were quite light because I was creating a fixed image. There were no problems of flickering, so I didn’t lose time testing the power of my (new) computer (Fig.21).

The Feathers

As I mentioned earlier, I extracted an Alpha channel of my “hair feather” to create two to three different feather textures in Photoshop. The aim of this was to easily achieve a nice selection for masking my texture with a feather shape (Fig.22 - 24).

I made 2 feather shapes, and 3 feather tints - white, grey, and black - to break the repetitive impression.

The Eagle Body

Most of the parts of the eagle’s body were hidden by the feathers, but the body had its importance too. The feathers didn’t perfectly cover the eagle’s body. In the feather’s pass you can see some holes, in red, which appear between some of the feathers (Fig.25).

To fix this I created a diffuse texture, faking the feathers on the eagle’s body and filling the gaps between the ‘real’ feathers. I also included the beak’s colour in this texture (Fig.26).



Fig.25

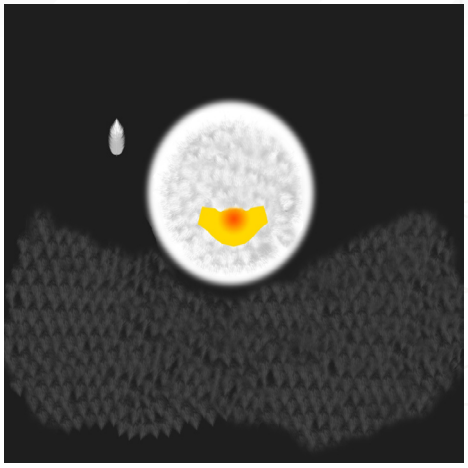


Fig.26

For the body shader, I use Sub Surface Scattering to fade the “3D plastic aspect” and to give a more realistic look (Fig.27).

The Nest and the Rocks

The shader of the nest and the rock was a Phong without any Specular. I only plugged two mixed textures (wood and leaf, or two stone textures) with Ambient Occlusion to achieve more volume. Don’t forget this was to be a fixed image, and so, for example, the twigs’ UVs didn’t need to be perfectly unfolded. A Spatial Projection was enough to give colour variation (Fig.28).

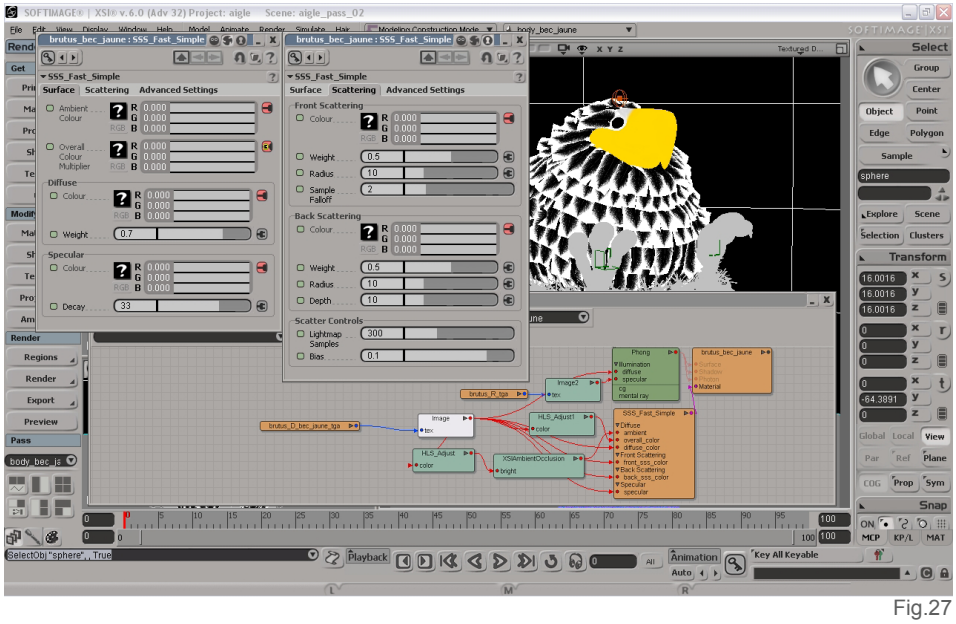


Fig.27

Compositing

For me, the compositing is almost the most important stage in the conception of an image, because it is here that I give fullness to the image with colour correction, additional lights, and by masking imperfections. To do this, I used Digital Fusion, which is an easy and intuitive software.

To obtain my final picture I split my render into ten different passes, onto which I applied different effects, such as Colour Corrector or Mask, to hide imperfections. This allowed me to have more control over my picture (Fig 29 - 30).

Here you go: ‘’Tanguy’’!

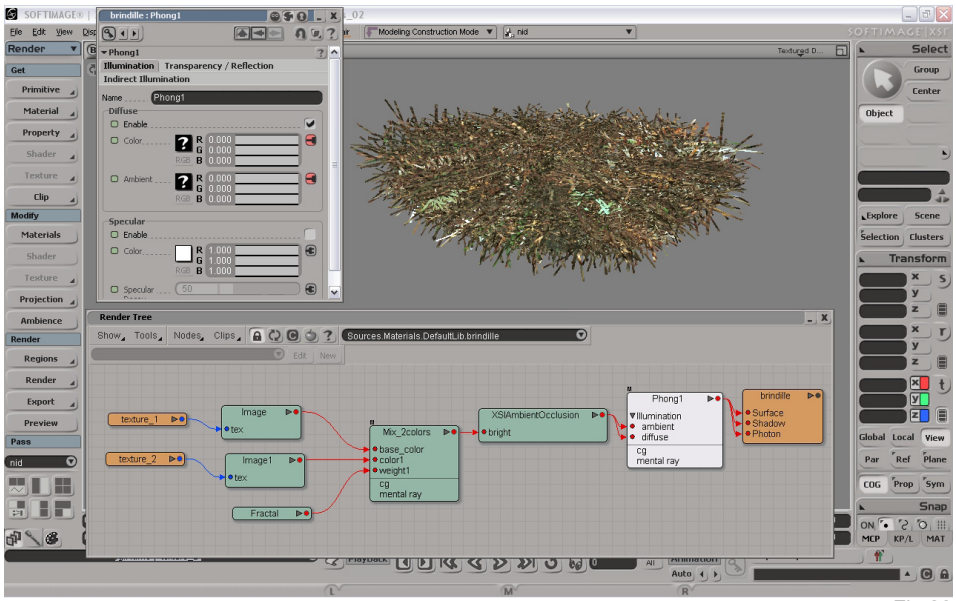


Fig.28

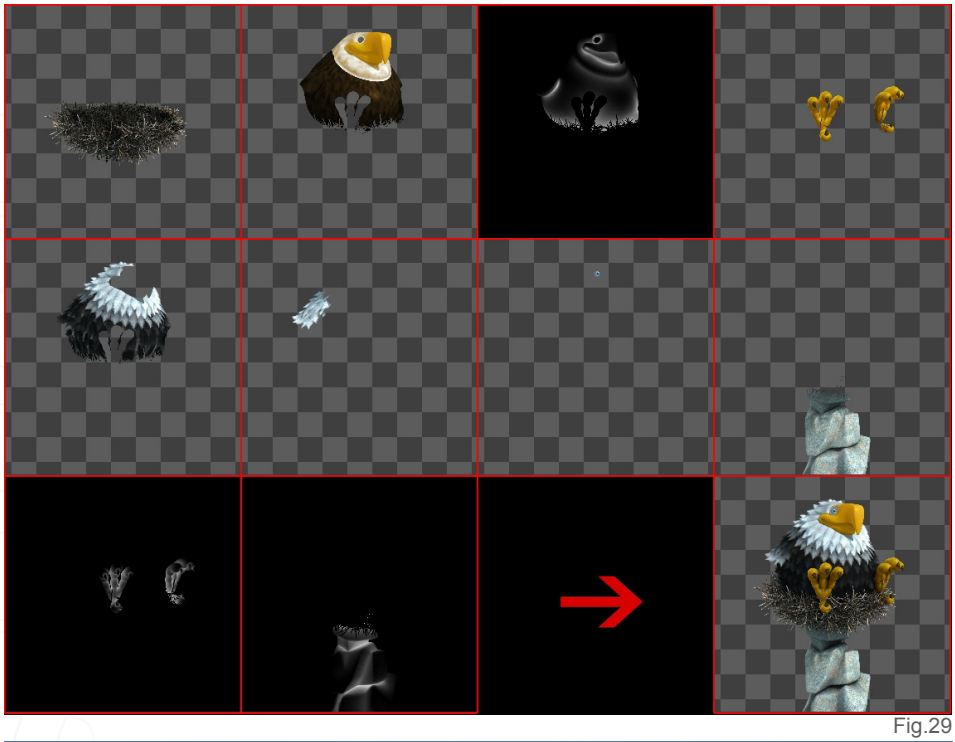


Fig.29



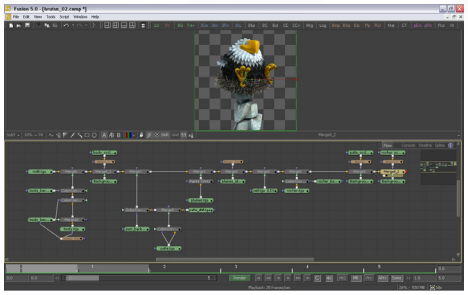


Fig.30

Finally, I have listed the names of all the processes used in this project, as shown below. I hope you have learnt something from this, and of course if you have any suggestions or critiques then please feel free to drop me a line.

List of the Passes:

The nest;

The body with an orange/red tint;

The body Occlusion to give volume and to separate the elements from each other;

The legs with a Backlight pass and an orange/red tint;

The feathers with Paint to erase and mask imperfections;

The wing's feathers with a Mask to fade it into the rest;

The eye;

The rocks with a Backlight pass;

The legs' Occlusion to give volume and to separate the elements from each other;

The rocks' Occlusion to give volume and to separate the element from each other.

Thibaut Massart

You can this artist at:
massart.thibaut@wanadoo.fr

BOXX



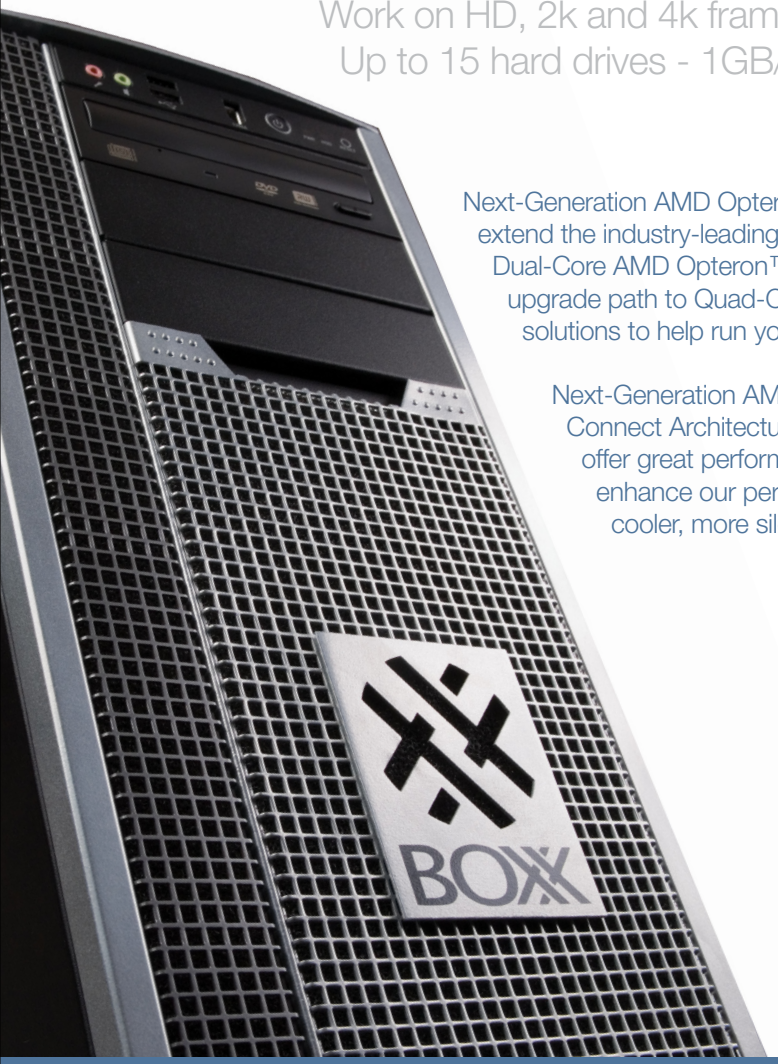
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This Month : The Final Part

RENDERING PART 2


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In this chapter we will learn how to create a daylight setup using Lightwave. We will combine the tools and theory explained in the previous chapter (Part 3); Direct and Indirect lighting, Area lights, Distant lights, Global Illumination, bounces, and much more...

lightwave



COMPLETE GUIDE TO LIGHTING

Part 4 : Daylight (Advanced)

"You may start wondering about things that you took for granted. From now on, you will not only see the Sun, You will learn to observe it in wonder..."

COMPLETE GUIDE TO LIGHTING

PART 4 : DAYLIGHT



Fig.01 - The Aztec Calendar

CREATED IN:

Lightwave

PART 4: DAYLIGHT

Daylight is the most common type of lighting for humans and all other living creatures on Earth. In the past, some cultures thought that the Sun was a God. They studied it. Some even offered it human sacrifices. Thousands of years ago the Sun was treated as a Deity (Fig.01). Nowadays however, it has become something rather 'normal' for us, and not worthy of our observation. In some places they don't even think at all about the source of light that is, the Sun. It is the obvious that humans tend to forget the daily things; those things that we see most often, but do not observe. The same thing has started to happen nowadays with computer graphics. The higher the level of the tools used to create lighting, the lower the level of observation that is required by the user. And therefore, the less likely it is that their users will develop a keen eye for lighting. With basic tools, the user requires deeper observation in order to duplicate lighting environments. A great traditional painter is not necessarily the one who is an expert at handling his brush. Neither are the best lighting artists the ones who know the most about certain technology or features. It is the trained eye which in fact makes a painter or a lighting artist exceptional (Fig.02). It is therefore practice which truly makes a master. The practice of simple tools can make you an even a greater master. This chapter will explain the essence of a daylight setup. In the process I hope that it will make you a better observer, so you will start to gaze at the Sun in wonder once again.



Fig.02



Fig.03 - Lighting is 80% observation, and only 20% execution

PREPRODUCTION

The success of a project is mostly dependent upon how much preproduction work is done. This is particularly essential for lighting. You can tweak a lighting setup for many hours, just to eventually realise that you lost track of your original intentions for the piece long before. Such happens in all areas of 3D, and in life. The application of a good working process increases the probability of success. Staying focused is the key. Plan from the general to the specific. Backtrack what you will require, from your goal back to you. This will help you to break your lighting goal into different techniques and tools to use. Later on you will realise that the same process can help you in other aspects of life. Preproduction, work-flow, process, planning - they all help you to attain your goal and to be successful. You can be successful if you plan ahead. Reaching a goal without this forward thinking is just plain lucky.

References & More References

It is important for us to gather reference material for our lighting goals. Always get as much as you can. The more references you gather, the more you will know your subject and your target. The more you know your target, the better you will be at its replication. Act as a detective. Observe and study all that you can from your target. Plan your setups, gather references, get physical samples, and study it. Lighting is 80% observation, and only 20% execution (Fig.03).

Analysing our Goal: Daylight Lighting

So we know that we want a daylight setup. It sounds simple - the Sun is just a light source after all. The Sun casts warm rays against a blue sky. The shadows that it casts are sharp. It may cross your mind to simply put a Distant light, and be done with it. Try it out and check the results! If it was that easy to make a daylight setup then I wouldn't be writing this chapter, and I doubt that you would be reading it. So, let's analyse what a daylight setup involves. This is not a difficult task, but it is one worth a deeper analysis than just setting up a light...



Fig.04

Essentials & Details

Plan from the general to the specific. Going from the specific to the general will just make you lose your goal. This is one of the main reasons why many can become frustrated with lighting, if observation is focused on the details rather than on the basic main elements that are involved in a lighting setup. There are times when we miss an essential lighting element, because without them, no matter how much you tweak lighting details and add gorgeous textures, many will see the render and realise that there is something 'missing'. There isn't anything wrong with details, but they should be added at the end of our setup.

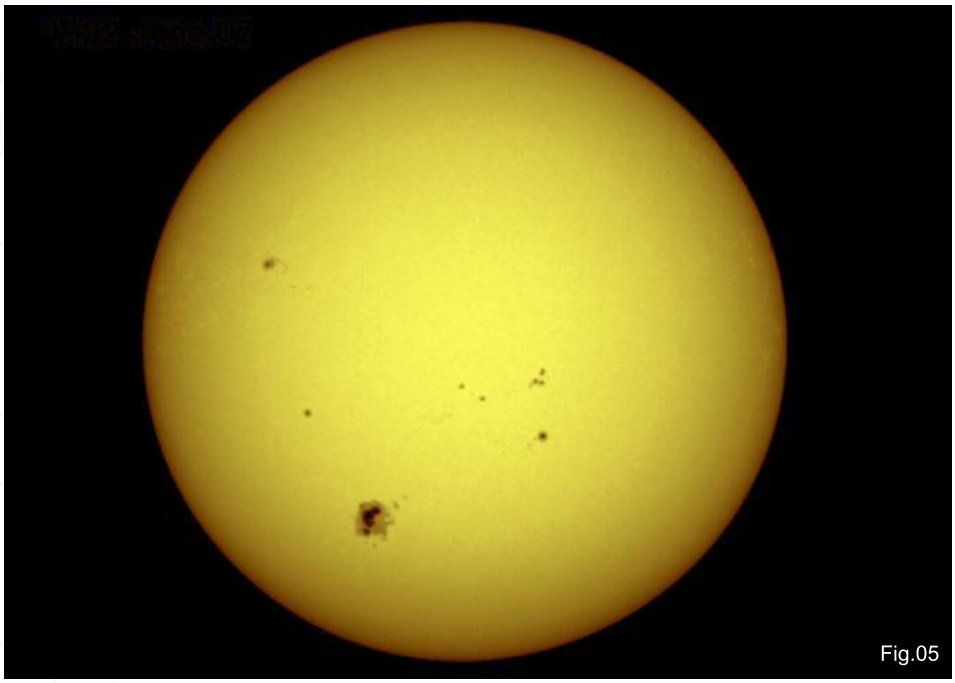


Fig.05

Essential Elements of a Daylight Setup

What are the basic elements of a daylight setup? Well, we have the Sun. Light enters the atmosphere and hits objects. When sunlight is blocked by objects it creates sharp shadows. However, as the shadows start to extend away from the object they start to get fuzzy. These are the main elements of our Direct light. However, we also have Indirect lighting. The Sun's rays hit the atmosphere. The atmosphere bounces light and causes a soft blue lighting. These rays come from all directions of the atmosphere and they add a soft lighting which makes objects cast soft shadows. These rays were initially cast by the Sun, but were bounced back by the atmosphere. When light is bounced it normally gets dispersed. Therefore, Indirect lighting is normally responsible for the softer shadows inside a lighting setup, whilst Direct lighting tends to be responsible for the sharpest shadows.

The Sun

The Sun is far away from, and is much bigger than, Earth. Sunlight travels and hits the Earth. All of the shadows produced by the Sun in a picture will face the same direction and have the same angle. When sunlight is blocked the shadows produced by the object are almost completely sharp. The following is a formal definition of the Sun:

The Sun has a spectral class of G2V. G2 implies that it has a surface temperature of approximately 5,500 K (or approximately 9,600 degrees Fahrenheit / 5,315 Celsius), giving it a white colour which, because of atmospheric scattering, appears yellow as seen from the surface of the Earth. This is a subtractive effect, as the preferential scattering of blue photons (causing the sky's colour) removes enough blue light to leave a residual reddishness that is perceived as yellow. (If low enough in the sky, the Sun appears orange or red, due to this scattering.) (Fig.04 - 05).

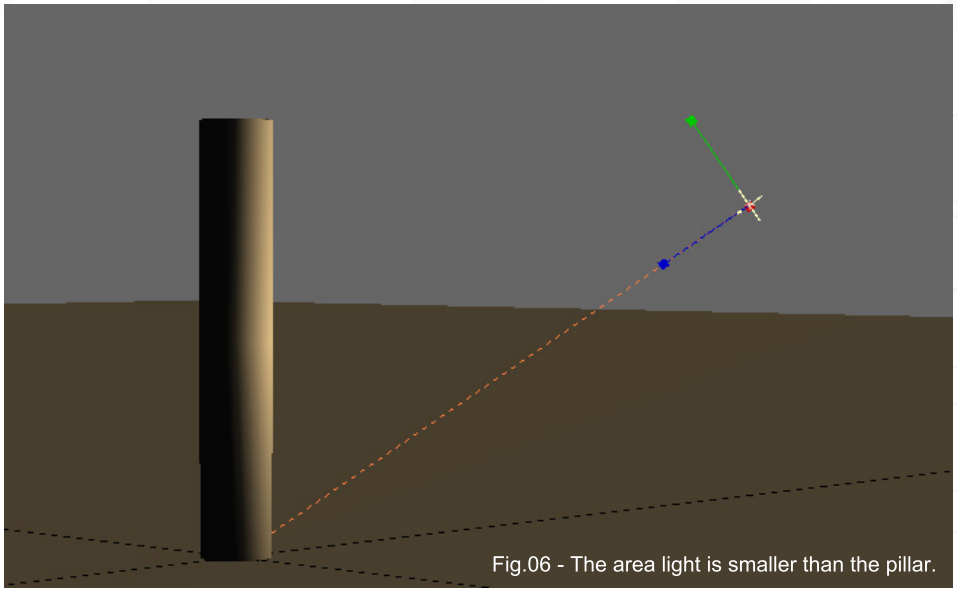
There are many ways to duplicate such an effect. The easiest way is by using a Distant light, however by using this we will lose the fuzziness of shadows as they start to get further away from objects. Point lights produce sharp shadows, but the resulting shadows are not perpendicular to each other. Linear lights have a similar effect. Area lights can be used to produce both soft and sharp shadows. When Area lights are relatively bigger than the object being illuminated, objects will cast soft shadows. When Area lights are relatively smaller than the object being lit, sharper shadows are produced. We can therefore use Distant lights, or Area lights, to simulate the Sun.

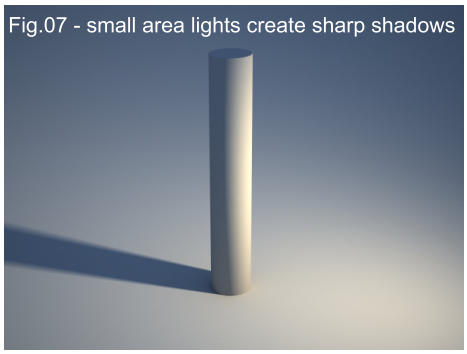
Sharp Shadows

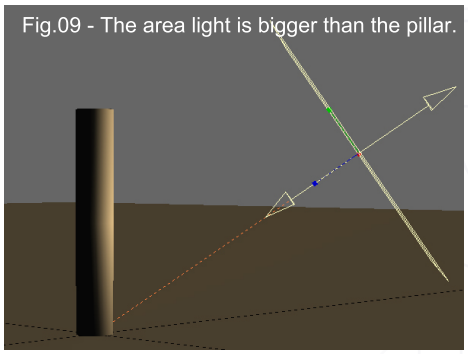
Fig.06 and 07 show a small Area light. The pillar is casting sharp shadows, since the Area light is relatively smaller. Take note however that the further away the shadows are form the pillar, the softer they become. The sharpest part of the shadow is situated near the pillar (Fig.06 - 07).

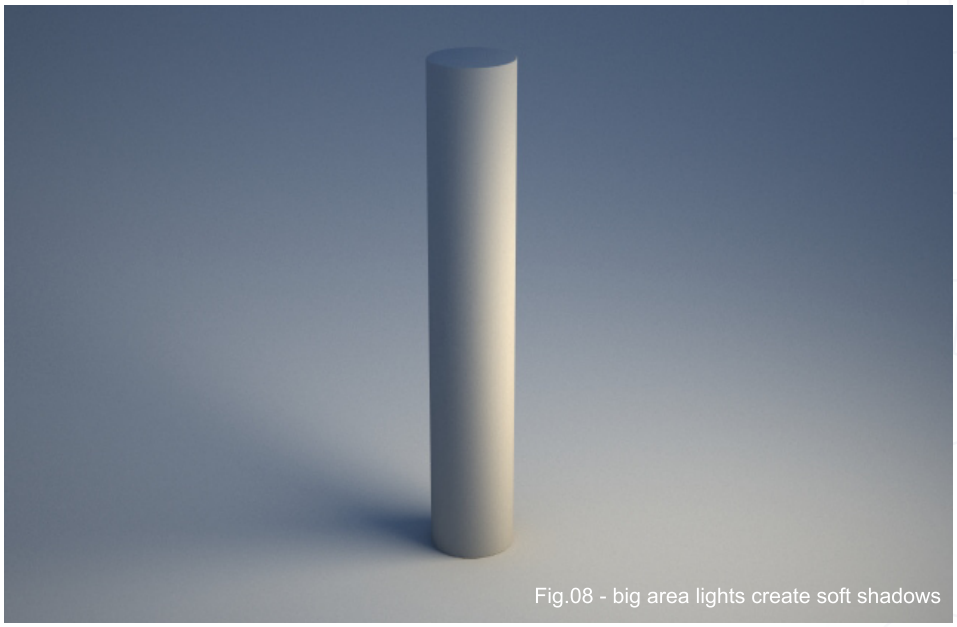
Soft Shadows

When area lights are relatively bigger that the object being illuminated (Fig.09), objects will cast soft shadows. When area lights are relatively smaller than the object being lit (Fig.06), sharper shadows are produced (Fig.07).


Fig.06 - The area light is smaller than the pillar.


Fig.07 - small area lights create sharp shadows


Fig.09 - The area light is bigger than the pillar.


Fig.08 - big area lights create soft shadows

The Atmosphere

Atmospheric light wouldn't exist without the Sun. However, the nature of its light rays is different from those of direct sunlight. It is indirect, since sunlight is bounced inside the atmosphere. This continuous bouncing creates softer shadows around objects. There are several ways to duplicate this effect. In the previous chapter, we discussed the use of Ambient Intensity to fake it. This time however we will learn how to use Radiosity, along other tools, to simulate it.

Doing Your Indirect Lighting First

I personally find it easier to make Indirect lighting first and the Direct lighting afterwards, as this allows me to create richer, and more realistic, results. It is a work-flow tactic. Direct lighting is stronger and faster to render. It creates the more obvious, and sharpest, shadows. Obvious things are easier to duplicate. Indirect lighting is softer and slower to render. It creates the least obvious shadows. Personally, I think that it takes more time to create accurate Indirect lighting than Direct lighting. Therefore, I choose to add Indirect lighting first, and Direct lighting afterwards. Dealing with difficult tasks first is less frustrating than working with them at the end. How would our scene look if it was only illuminated by the light that the atmosphere bounces from the Sun? It is difficult to answer this question because our eyes are used to see things combined, both direct and indirect light at the same time. However, there are places where you can find the intensity and colour of indirect lighting alone. Take a look at the exterior lighting on an early or winter morning for example. At this time of the day the Sun hits the atmosphere, and some places will not receive sunlight directly. Therefore, the only light received will come from the light that is bounced from the atmosphere (Fig.11 - 12).

Earth & Moon Lighting

If you take a look at the shadows on a sunny day, you will notice they are not completely black. If there was no atmosphere or environment to bounce light, the shadows produced by the Sun would be completely black. However, take a look at pictures of the Moon's surface taken from ground level. In these pictures astronauts project completely black shadows, and so do the rocks that block the sunlight. On the moon there is no atmosphere bouncing light or making shadows look lighter. On Earth, the atmosphere, buildings, and other things, bounce light back. These bounces further illuminate shadowed areas, which



Fig.10

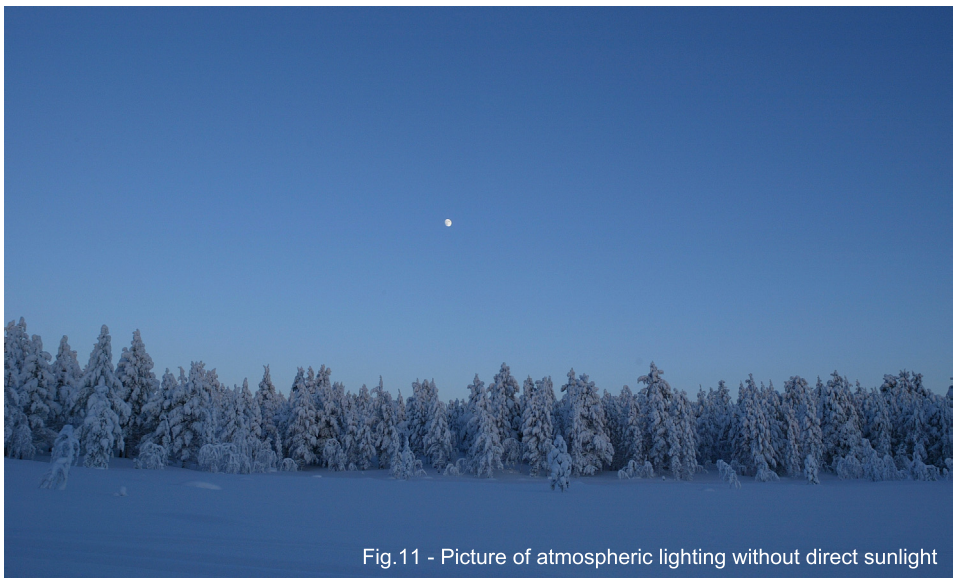


Fig.11 - Picture of atmospheric lighting without direct sunlight

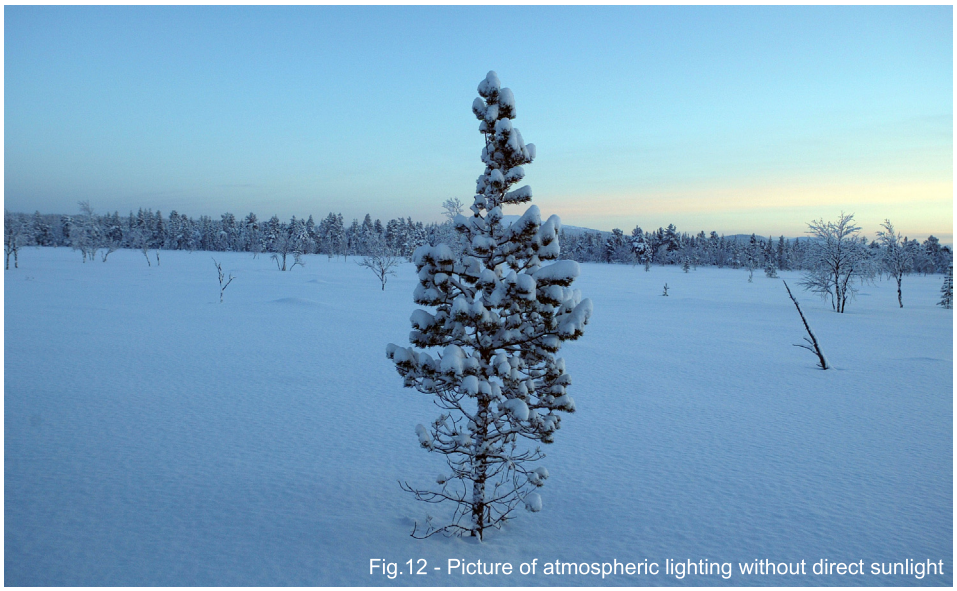


Fig.12 - Picture of atmospheric lighting without direct sunlight

are built of dark unsaturated colours. Indirect lighting (bounced light) takes more time to render. There are therefore variables to balance quality and render times to suit your needs. There are solutions that involve just the use of Radiosity, but at the cost of high render times. There are however more sophisticated solutions that involve bigger lighting rigs and texturing techniques in order to lower render times. Let's start with the first one, so that you can make better use of sophisticated methods later on.

Creating Atmospheric Lighting

A bright sky can be created using the Windows > Backdrop Options. This will open up the Effects panel, where we will find four main tabs: Backdrop, Volumetrics, Compositing, and Processing. The Backdrop tab contains options to set colour(s) to the background. By default, this option is set to black. The Volumetrics tab contains options to set Fog effects to your scene. The Compositing Tab allows you to specify a file for your background and foreground. The Processing Tab allows the use of filters to create effects such as bloom, blur, gamma, and so on. Let's further explain the Backdrop Tab, since it is the key to making simple and nice atmospheric lighting (Fig.13)...

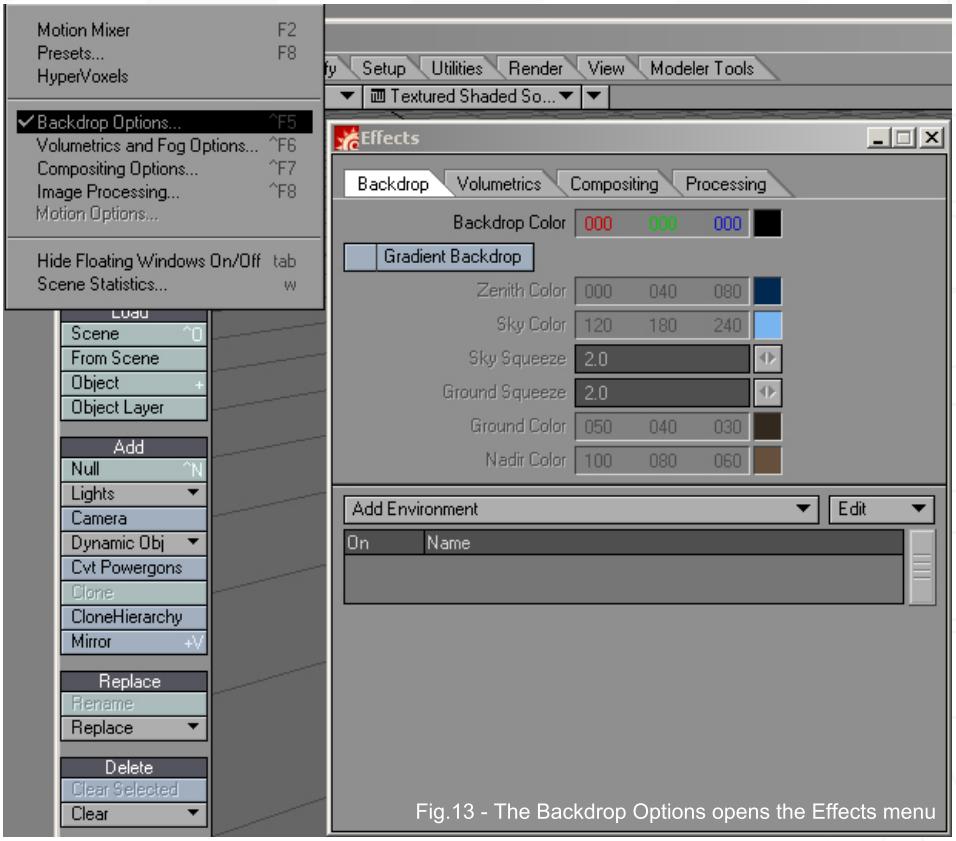


Fig.13 - The Backdrop Options opens the Effects menu

Backdrop Colour

By default, the Gradient Backdrop check-box is not activated, and our Backdrop Colour is set to an RGB of 0, 0, 0. With such configuration, any visual space that is not covered by our objects will be rendered black. If you open a brand new scene, and press <F9>, you will get a completely black render. If you change this to 128, 128, 128 you will get a grey render. It doesn't matter where your camera is facing. Any viewing angle your camera is set to will be rendered with that colour, unless of course you position an object in between.

Gradient Backdrop

If we activate the Gradient Backdrop we will be able to select four colours and two values.

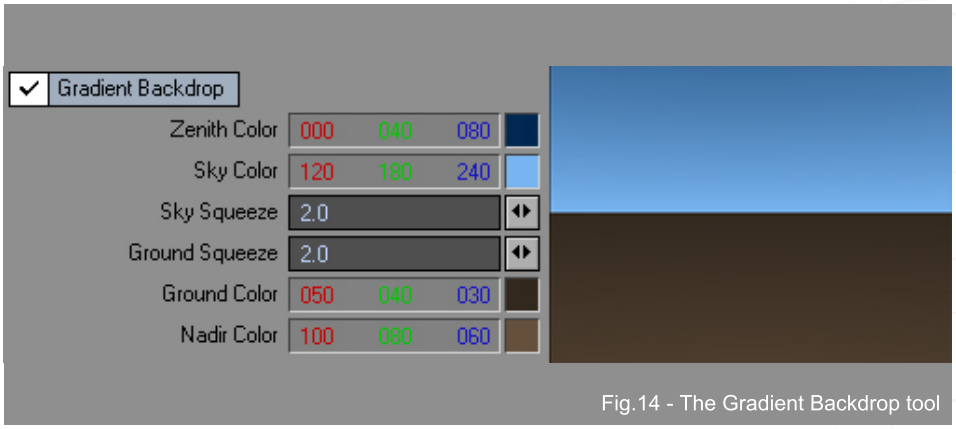


Fig.14 - The Gradient Backdrop tool

These options are a quick solution for the creation of atmospheric light. If you activate the Gradient Backdrop and press <F9>, you will get a render which shows two gradients. The one of the top will be a blue gradient, and the one at the bottom will be a brown gradient (Fig.14).

Zenith Colour: This colour represents the uppermost part of our sky, which In simple words is the part of our virtual atmosphere which is situated right above our heads.

Sky Colour: This is the sky that is situated at your eye level. It is the colour that will appear above the horizon line, and will gradually merge and make a gradient shift with the Zenith Colour.

Note: the Zenith and Sky colours can be used to create a clear and simple atmospheric sky. This tool works well when we want to attain a sky in which our Sun is situated right above us. This tool does however have some limitations. The colour gradients produced by this tool are all vertical. In real life, the Sun creates colours in our sky which are parallel to the light rays of the Sun. Therefore, if we want to create a more realistic environment, we can use other tools that will better represent the gradient created by the Sun.

Ground Colour: This is the colour of the ground that is situated far away, "touching" the horizon

line. It is the colour seen directly under the Sky Colour.

Nadir Colour: This is the colour of the ground that is right underneath the camera's viewing angle. It is the counterpart of the Zenith Colour parameter. **Note:** for a daylight scene, these two colours have less influence in our lighting setup. Most of the time we will have a ground plane underneath our camera which will be catching the rays coming from above. In such cases, I personally would adjust the Ground and Nadir colours to the same colour as used for the Sky colour.

Sky Squeeze: This value can handle the way the Zenith Colour and Sky Colour create the upper gradient of your backdrop. The higher the value, the more space the Zenith Colour (upper colour) will become part of the upper gradient (Fig.15).

Ground Squeeze: This value can handle the way the Ground Colour and Nadir Colour create the lower gradient of your backdrop. The higher the value, the more space the Ground colour will take from the lower gradient (Fig.16). **Note:** the following is a configuration that I like to use to simulate a completely clear day sky. It was taught to me by Vegard Myklebust (aka Ulven). This combination has a deeper blue Zenith Colour, with a lighter blue Sky Colour. The Ground and Nadir are set to the same colour as the Sky, whilst using a Sky and Ground Squeeze of 6 (Fig.17 - 18).

Using Radiosity

Backdrops can only illuminate our scenes if Radiosity is activated. Without it, our backdrop will only work as a nice background. Radiosity can be activated in the Render Globals > Global Illumination tab. In Fig.19 our backdrop is illuminating our scene. The default light intensity was turned to 0%. Notice that this type of lighting resembles Earth's atmospheric lighting (Fig.10 - 12). Radiosity is a wild beast. Lightwave 9.2 brought significant rendering improvements. Fig.19 took minutes to render, but before Lightwave 9.2 it would have taken hours! Radiosity has many options to tweak,



Fig.15: sky squeeze column

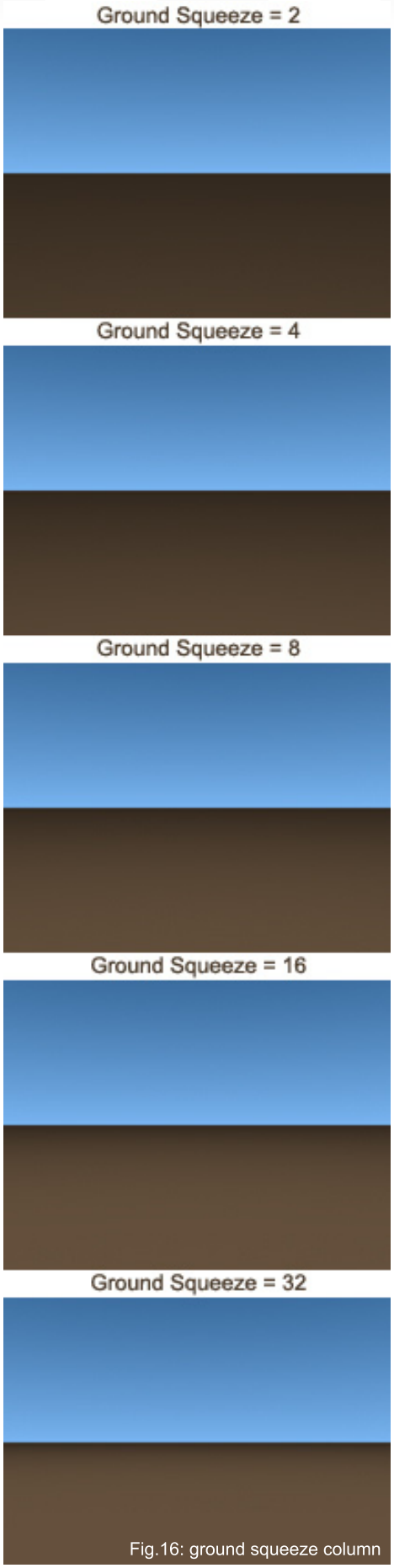


Fig.16: ground squeeze column



Fig.18 - Gradient Backdrop configuration for a clear sky.

depending on the nature of our scene (Fig 21). For now, let's analyse one of its main variables: Indirect Bounces. This property dictates how many times a ray of light will hit and bounce, further illuminating our scene. If you specify 0, light will stop at the first contact with an object. If you specify 1, it will bounce once, illuminating another part of our scene for a second time. The higher the value, the longer it will take to render, but the softer our render will look. We

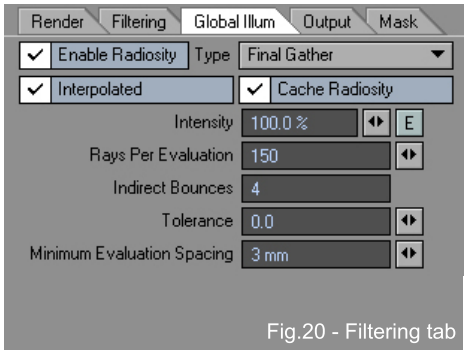


Fig.20 - Filtering tab

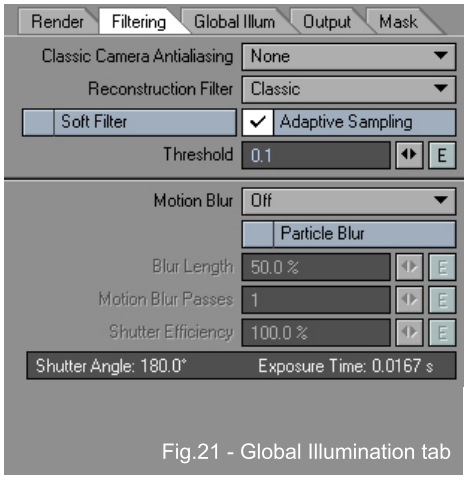


Fig.21 - Global Illumination tab

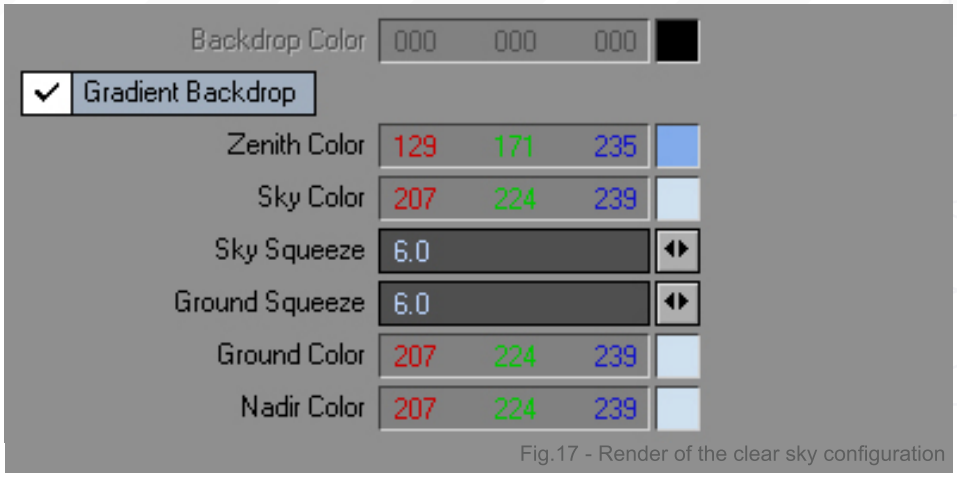


Fig.17 - Render of the clear sky configuration



Fig.19 - Radiosity render using only the Gradient Backdrop for lighting.


Fig.22: text: 1 bounce = 6m 11s


Fig.23: text: 2 bounces = 7m 23s

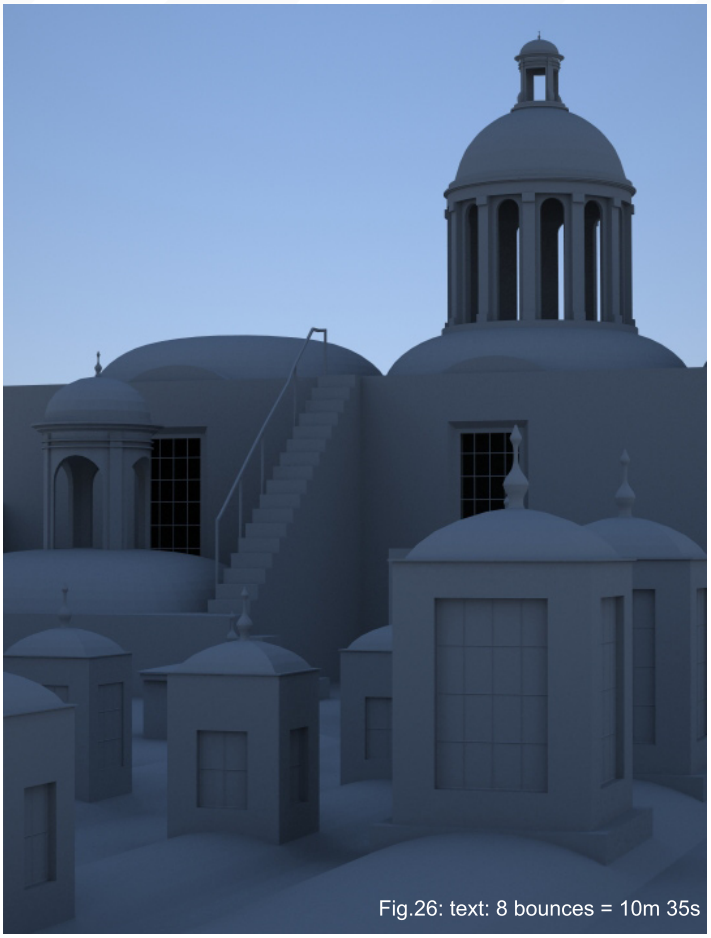

Fig.26: text: 8 bounces = 10m 35s


Fig.24: text: 3 bounces = 8m 50s


Fig.25: text: 4 bounces = 9m 23s

should therefore try to use the least amount of bounces to attain the feel and look we are trying to achieve (Fig.22 - 26).

Adding Environments

The Gradient Backdrop tool can help us to create a nice atmosphere. However, it is not useful for complex scenarios. It is useless if you want to add an horizontal gradient, add more than four colours to your gradient, or even to add clouds. The Gradient Backdrop is unable to do such tasks. However, we do have other tools that can accomplish this. The Add Environment drop down menu is one of them, and is located in the Effects menu under the Gradient Backdrop tool (Fig.27).

There are Four Kinds of Environments:

Image World: This option allows you to select an external image and wrap it around your world's environment. You will be able to change the Heading and Pitch of the image. With it you can rotate the spherical environment to suit the rotation that you want. There is also a Brightness option, which is set to 100% by default (Fig.28 - 29). **Note:** the Image World is commonly used alongside HDRI images. HDRI stands for "High Dynamic Range Image", which is a fancy name but essentially means that colour values can go beyond 255, 255, 255, when compared to an RGB image (JPG, GIF, PSD, and so on). They contain a very large degree of exposure, or brightness, values. HDR images are closer representations of brightness range levels perceived in the real world. Most HDR Images are a 360° representation of an environment. This allows HDR Images to be used as wrapping environments that can light your scene. Since each individual pixel of the image can produce light, the results are normally realistic, due to the richness of light colour and intensity produced. (We will look at and practice this feature in later chapters.)

Textured Environment: While Image World will allow you to wrap an image file around your



scene, Textured Environment will allow you to produce one inside Lightwave. Once you click on the Texture button, you will be allowed to stack more than one image, gradient or procedural texture (Fig.30).

SkyTracer & SkyTracer 2: This option allows you to create a sky and preview it at the same time. The output is saved in your content directory so that the sky can be loaded into either the scene you created, or another one. With it, you can create skies that have not only an atmosphere, but also clouds, a sun, moon, and so on. SkyTracer 2 allows the same options as SkyTracer, but with a different work-flow to be followed (Fig.31 - 32).

Image Editor

It is imperative to learn more about the Image Editor if you plan on using environments. It is

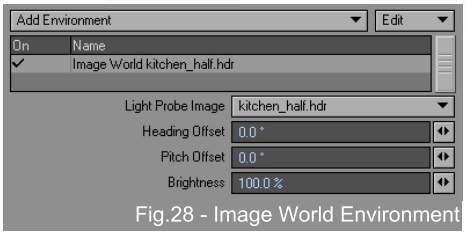


Fig.28 - Image World Environment


Fig.29 - 360° environment

here that you can see all of your loaded images. This editor can be used to manipulate and update your image files. It can be opened using the <F6> hot key, or by clicking on the Image Editor button located to the top-left of Layout. Let's analyse some of its features (Fig.33).

Image List

On the left of this menu you will get a list of all the images that are available inside your scene. All images in all formats will appear here. If you want to get rid of an image you can right-click on its name and press Delete. If you double-click on the name of the image, or its preview on the right, a window with the actual size of the image will appear. Inside it, you can select different percentages in which to view your files.

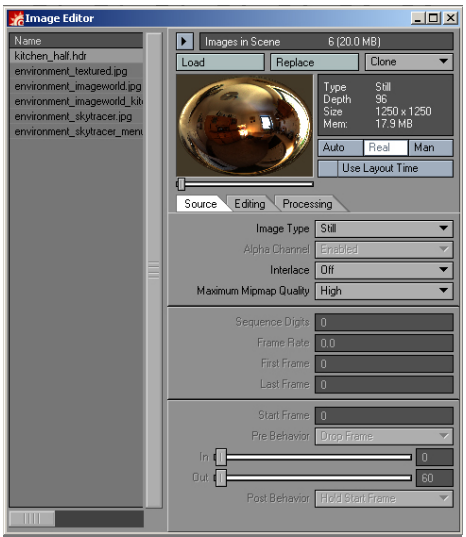


Fig.33 - Image Editor menu

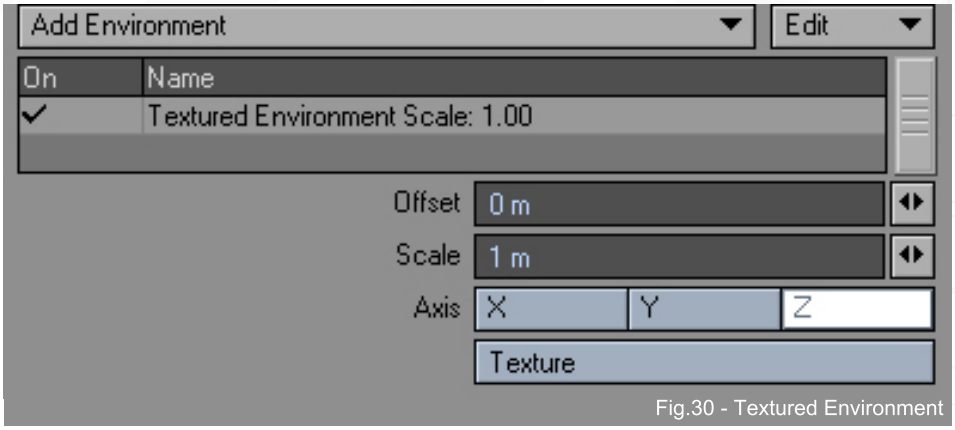


Fig.30 - Textured Environment



Fig.31 - SkyTracer Environment

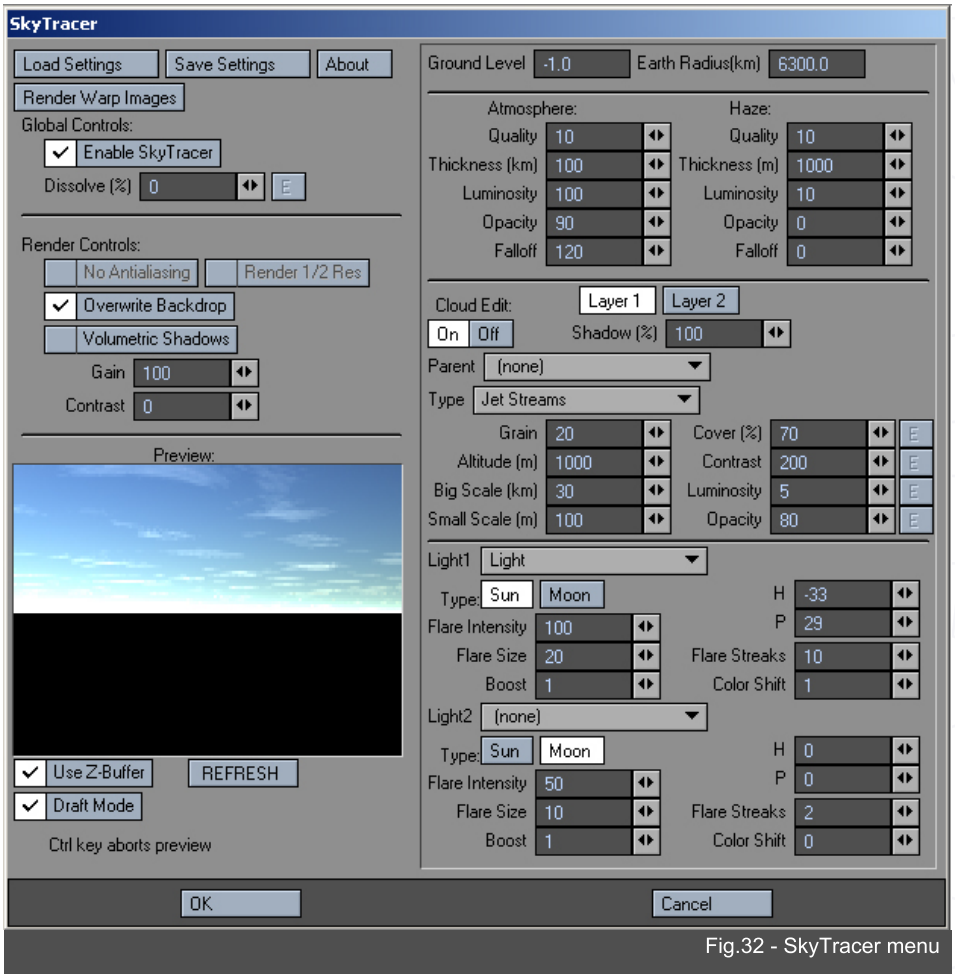


Fig.32 - SkyTracer menu

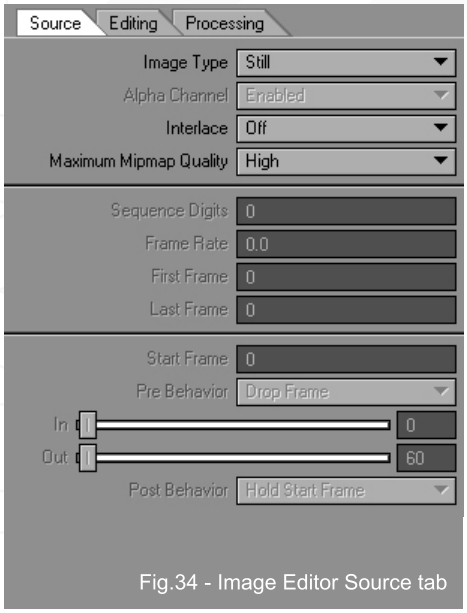


Fig.34 - Image Editor Source tab

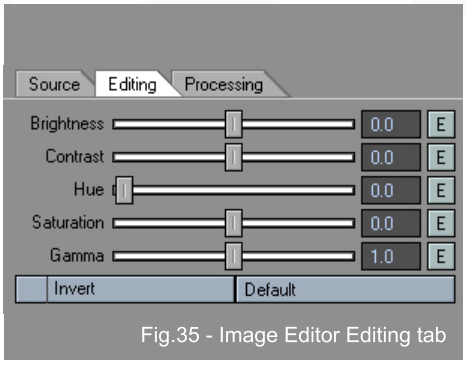


Fig.35 - Image Editor Editing tab

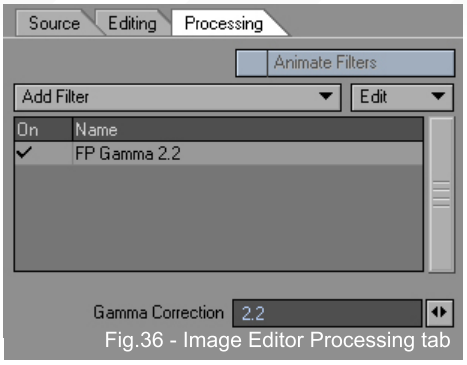


Fig.36 - Image Editor Processing tab

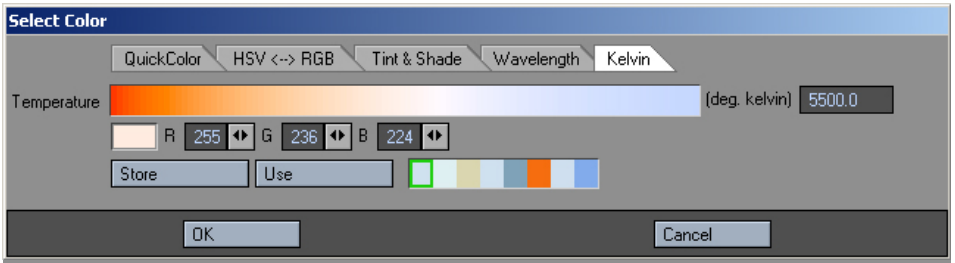


Fig.37 - 5500 kelving degrees

Loading

You can use this button to load images into your scene. On the top of this menu there is a Load button. Pressing it will bring up a window to browse and select one or more images to load into your scene. Sometimes we have a bunch of images that we know we will use during the day, and we don't want to load them one by one. This is a great option to use if you wish to do this.

Replacing

There is also a Replace button. When you select an image from the list and click Replace, you can update the image you are selecting. This is particularly useful when you update a texture map. Lightwave will not realise that the image was updated when it is modified outside Lightwave (such as in Photoshop). You have to "tell" Lightwave that the image has changed, and by using the Replace button you can update it.

Cloning

The cloning tool allows you to create instances, or duplicates, of images. This is useful when you edit and process an image inside Lightwave. It allows you to avoid the task of loading several identical images. By having clones you can save more memory and update images faster.

Image Editor Tabs

There are three main tabs inside the Image Editor, which are as follows:

Source: This tab allows you to specify properties about the image. You can select what type of image it is, its Alpha channel, interlace options, and so on (Fig.34).

Editing: It is recommended that images are post-processed prior to them being loading into Lightwave. However, Lightwave does offer the ability to tweak some general parameters of images using this tab. You can tweak the Brightness, Contrast, Hue, Saturation, Gamma, and so on. These constitute basic parameters (Fig.35).

Processing: This tab allows us to put filters to images. There is a great variety of filters, each of them with a specific purpose. They allow the alteration of images. You can add a black and white filter, blurring, exposition, bloom, watermark, and so on. Whilst the Editing tab allows us to tweak basic parameters, this option gives us much more editing options (Fig.36).

Creating Sunlight

The Sun has a temperature of 5,500K. This represents an RGB value of 255, 236, 224, which is a desaturated and light pink. Should you use this colour to create sunlight? You can, but it will not look like sunlight. Why? Because in real life there is some filtration of light due to the atmosphere, making sunlight yellow. In our scene, sunlight will also be attenuated by our sky's gradient. However, the filtration will not give the same results. We therefore have to trust our eyes more than our scientific reasoning if we want to attain the look and feel that we are after (Fig.37). Sunlight requires a high degree of contrast between the highlights and shadows. A high degree of contrast in Lightwave requires a high Light Intensity. High intensity lights will "burn" colour to white if the value (brightness) of the Light Color is too high. In simpler words, mild yellows and pinks will look rather white when you use high intensity lights in Lightwave. Fig.38 shows a render with a Light at 5500 Kelvin in colour. You will realise that there is no colouring created by the sunlight.

Work-Flow Tactic

So how can we get both the light intensity we want, along the colour? Lets analyse a work-flow tactic for this issue. To create the shadows and highlights of the Sun we require a high Light Intensity. To compensate the colour "burning" we can use lower colour values. A good tactic is to take our high RGB value, such

as 255, 215, 150, and right-click on the Light Colour RGB values. This will bring up the HSV (Hue, Saturation and Value) menu. Lower the V (Value) of the light, and test. Right-clicking on the Light Colour menu will switch it back to RGB. Do this and make test renders. Try to get your grey, 128, 128, 128, surfaces to look almost white, with a slight yellow tint on shadowed areas. With this technique I came up with a Light Colour of 148, 125, 087, along an intensity of 300%, with no Intensity Falloff

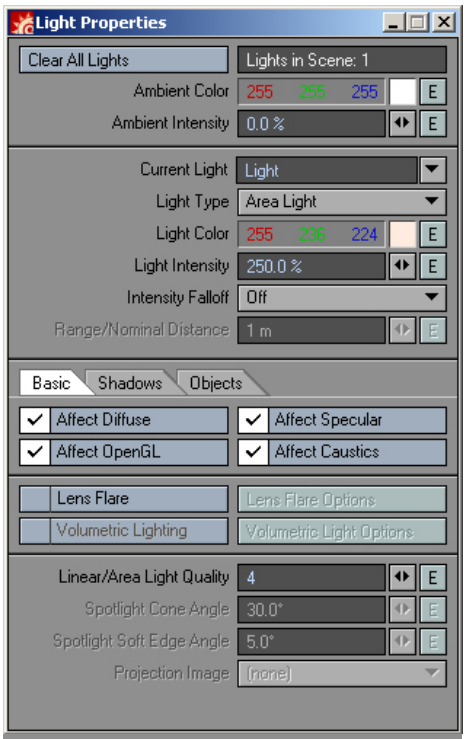


Fig.39 - Light at 5500 kelvin degrees

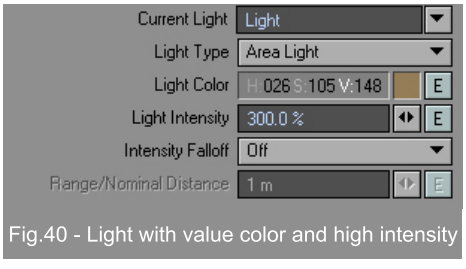


Fig.40 - Light with value color and high intensity

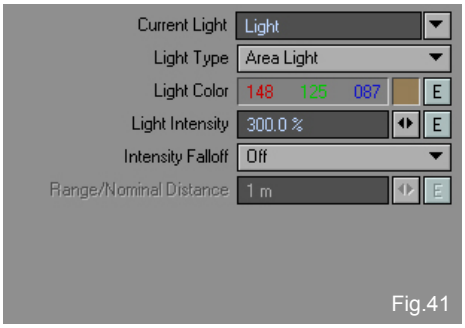


Fig.41


Fig.38 - Burning sunlight

(Fig.40).

Sun & Area Lights

Our Sun can be created using one Area light. Position one facing your scene, and then make it relatively small in relation to your scene's objects. This way you can simulate the Sun's shadows. The key is to make it small enough so that the shadows will be sharp near the object, and slightly fuzzy as they get further away from the objects. Combine this technique with some atmospheric light, and you will have a basic daylight setup (Fig.42 - 43).

Sun & Distant Lights

Distant lights are the least render intensive Light elements, and they render much faster than Area lights. The shadows produced by objects are sharp. If you want to simulate the Sun, and also minimise render times, use a Distance light. Just remember to add some environmental lighting as well (Fig.44 - 45).

CONCLUSION

Sunlight is the most common lighting upon Earth, and there are many ways to duplicate it in Lightwave. A basic daylight setup involves two main elements: the atmosphere and the Sun. The atmosphere is the key element for adding soft shadows and realism to our scene. It could be created by using a backdrop gradient, along with the activation of Radiosity. The Sun allows the creation of the hardest shadows and highlights. The use of a warm, low colour value is the key for a warmer looking sunlight. This method is fast and simple to setup. It provides great results, however at the cost of higher render times, due to the use of Radiosity. The following chapter will concentrate on lowering render times in a daylight setup. Hopefully something has already changed inside you. You may start to wonder about things that you once took for granted. From now on, you will not only see the Sun, but you will learn to observe it in wonder...

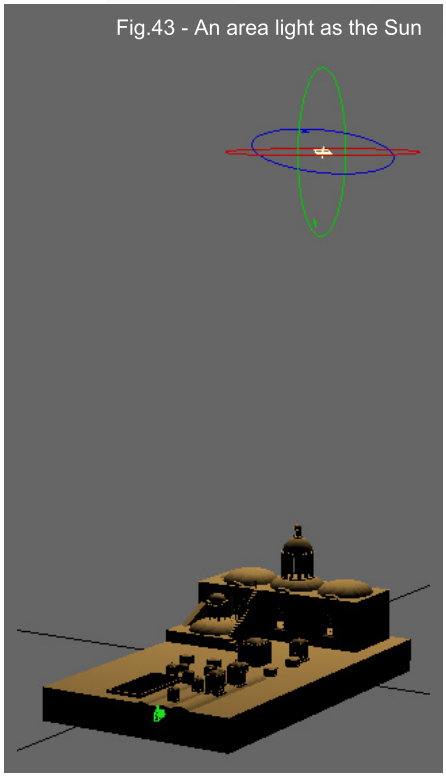


Fig.43 - An area light as the Sun



Fig.42 - Warm sunlight with soft shadows

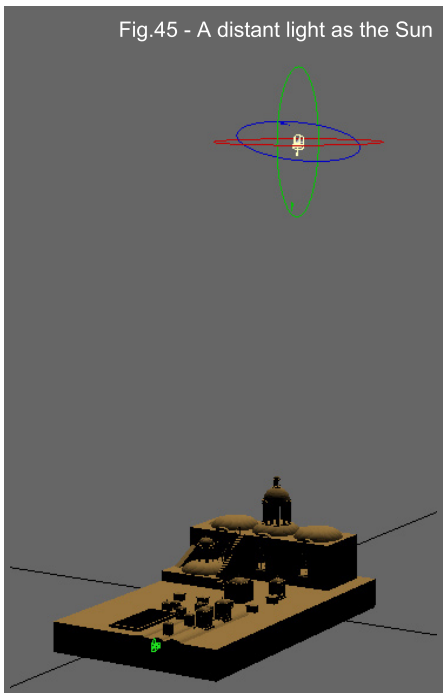


Fig.45 - A distant light as the Sun



Fig.44 - Warm sunlight with sharp shadows

CREDITS:

With special thanks to Vegard Myklebust and Steve Warner for their support and technical assistance.

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Wade Muller, a Master's degree art student from the University of Sydney, Australia, shows us how to build 'Corner of Cobblestone' from scratch...



Corner of Cobblestone

Corner Of Cobblestone

CREATED IN:

3D Studio Max, V-Ray and Photoshop

INTRODUCTION

The idea for this project was to create natural textures and to experiment with V-Ray Sun. I will explain more about V-Ray Sun and the lighting I used later on in this article. The original reference image was taken of a building in my local area, Coogee, in Australia. The reason I chose it was because it had slightly dirty walls, but they were not to the point of being filthy. It was also interesting compositionally, and allowed me the ability to play with different lighting setups (Fig01).


Fig01

MODELLING

For the modelling of the main building faces I used simple planes, then cut and extruded them to achieve the shape that I wanted. This also came in handy when I progressed to texturing because the faces were already separated. I split the building into three main parts; Left Main Face, Corner, and Right Small Face. All extra modelling was created using box modelling. There were certain areas where modelling was not used; instead I used either displacement, or a mixture of bump and opacity, textures to give form to such places as the balcony fences and the cobblestones (Fig02a - b).

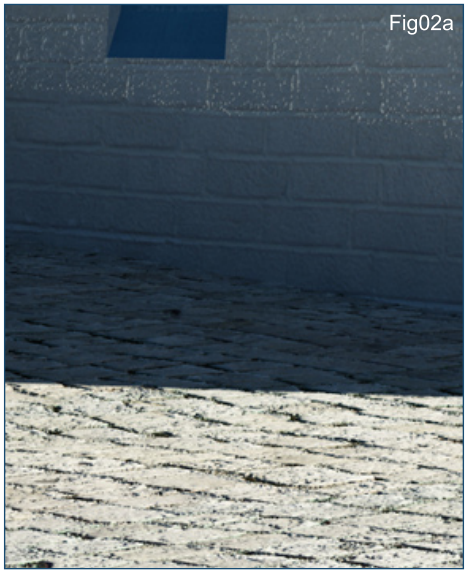
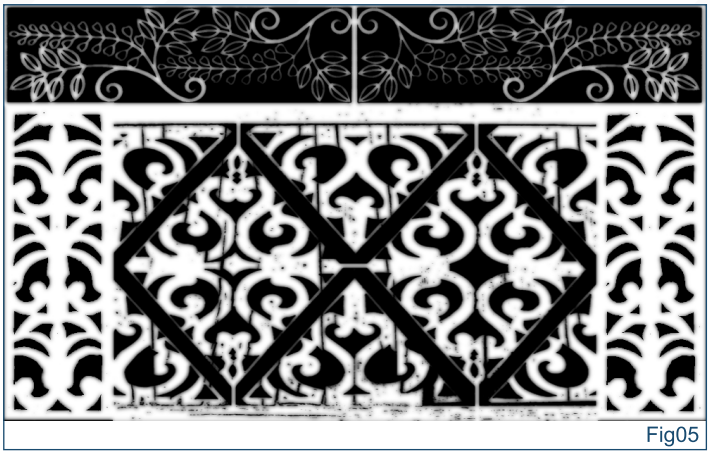

Fig02a


Fig02b

TEXTURING

Firstly, as I mentioned above, I used textures to create form, instead of modelling. The first area where I used this technique was the cobblestones, which are a V-Ray displacement. I just used an image and tweaked it in


Fig04


Fig05

Photoshop so that the contrast was correct to displace the stones properly. The second area was the balconies, where I used a mixture of bump and opacity textures, instead of geometry, because they were placed far from the camera, and so in the light of scene poly efficiency I could get away with it. As you can see in the bump, all I did was take the opacity map and feather the edges. This allows the fence to appear rounded, similar to how it would have been forged in a metal workshop (Fig03 - 05).

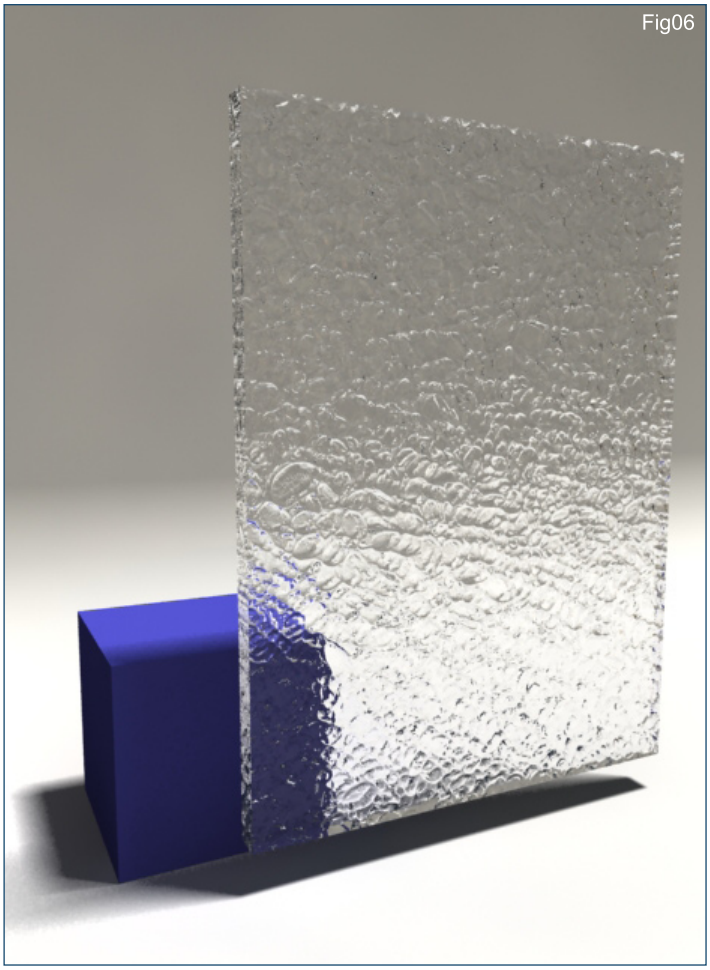

Fig06


Fig03


Fig07

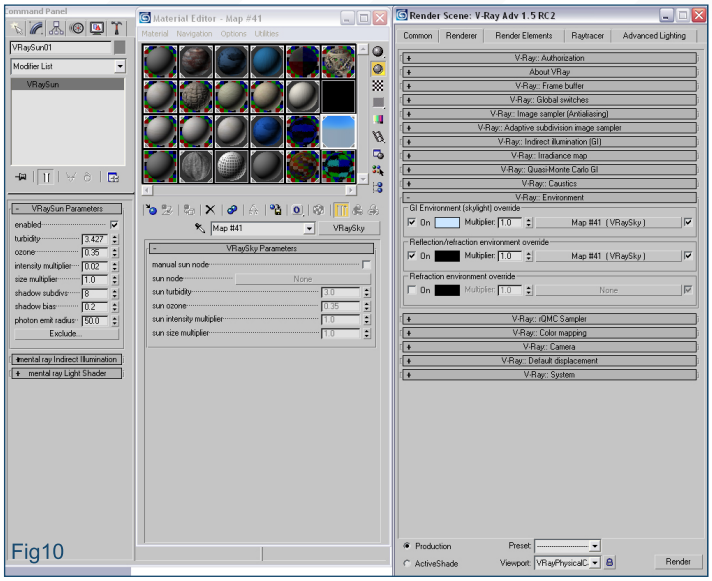

Fig08

Front Door Glass

I then moved on to work on the glass in the front door, for which I wanted to achieve a foggy, bumped effect. So I simply applied a bump map to the normal glass that I made (Fig06).

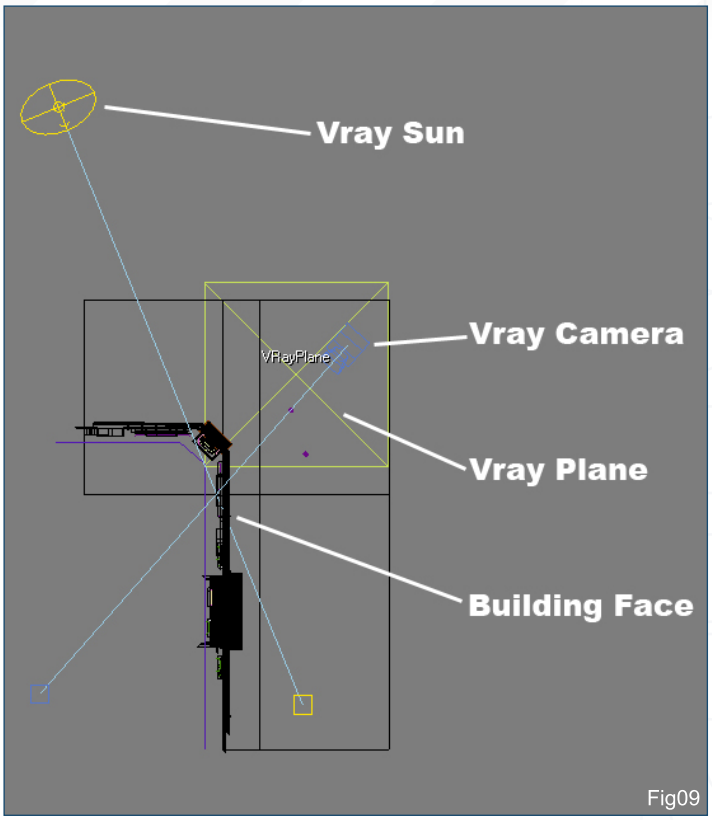
Building Texture

The main building texture was created by tiling a brick texture in Photoshop, then cropping and arranging extra components, such as the brick arch. Finally, some dirt maps and colour maps were overlaid to achieve the dirt and mottled colour (Fig07 - 08).



LIGHTING AND SCENE SETUP

As you can see from the scene setup in Fig09, I did not model any of the back of the building, as this was a still render and therefore seemed rather pointless to do so. For this project I chose V-Ray as my renderer, which became important in terms of the lighting because I used V-Ray lights as well as V-Ray shadows to complete the scene. So firstly, before getting into all the all nitty and gritty details with the V-Ray setup, I would like to explain some of the lighting theory behind the project. This may be helpful to anyone who has not used V-Ray, or any render system that is based on a Global Illumination (GI) setup, before. The two main components I commonly use when lighting an exterior scene are GI and a Key light. The reason for doing so is actually based on the real world. GI is basically reflected light, or light produced from the general surroundings. This system in based on shooting photons at the scene, and the bounces of light off objects and materials generate a general, non-directional fill of the scene. GI is basically a Fill light. In the case of this project I influenced my GI, or Fill, with a colour, and this was provided by a High Dynamic Range Image (HDRI). An HDRI is an image that has more data stored within it, and contains colour information that can be transformed into coloured light. The best way to describe it is to refer to light coming through a stained glass window. The Key light provides the main illumination of the scene, indicates light direction, produces shadows, and also generates GI. In this project the Key light was the sun, as well as a tool to produce the HDRI, however I will explain the V-Ray settings used in a moment. In conclusion, it comes down to a simple formula: Fill + Key = Final Result. However, this formula does take some balancing and can often involve constant re-rendering. There are ways of speeding this process up however by using a compositing software and by rendering separate light passes to see what the correct value is, which unfortunately is a whole different tutorial just in itself. As I mentioned earlier I used a feature in V-Ray 1.5 called V-Ray Sun, which replicates the sun's natural lighting.



V-Ray can be very precise and, in this case, you are able to control the strength of the sun as well as the ozone, and many more aspects that are based on real world physics. V-Ray Sun can also be used to create a sky texture. This feature actually creates the sky based on where the V-Ray Sun is in the scene. For example, if the sun is just above the horizon it will create a sky that goes from yellow to orange to blue. However in this particular project I did not want to use that sky in the shot, but rather wanted to use it as an HDRI to both light and slightly colour the scene. Using this method I could achieve very photorealistic lighting without having to play around with sky domes or other methods of Fill lighting. The V-Ray plane in the scene helped with GI reflection and was mainly used to simulate that there was a constant ground in the world I was creating (Fig10).

RENDERING

The render was a basic setup for exteriors. I had the primary bounce with an Irradiance Map and the secondary with Quasi Monte Carlo. I also used a V-Ray Physical Camera, which is a very handy tool that allows me to control the exposure and the aperture; basically, allowing me to control the brightness and contrast in the image, even before post work.

FINAL TOUCH

Finally I added the sky that I wanted in Photoshop, and made some major contrast adjustments. I'm a big believer in getting the image as close to perfect before Photoshop, as it makes you work harder at how the image is looking, and how your CG lights are affecting the scene (Fig11).

I hope this article has been helpful to some people. If you have any questions (or job offers), please contact me.

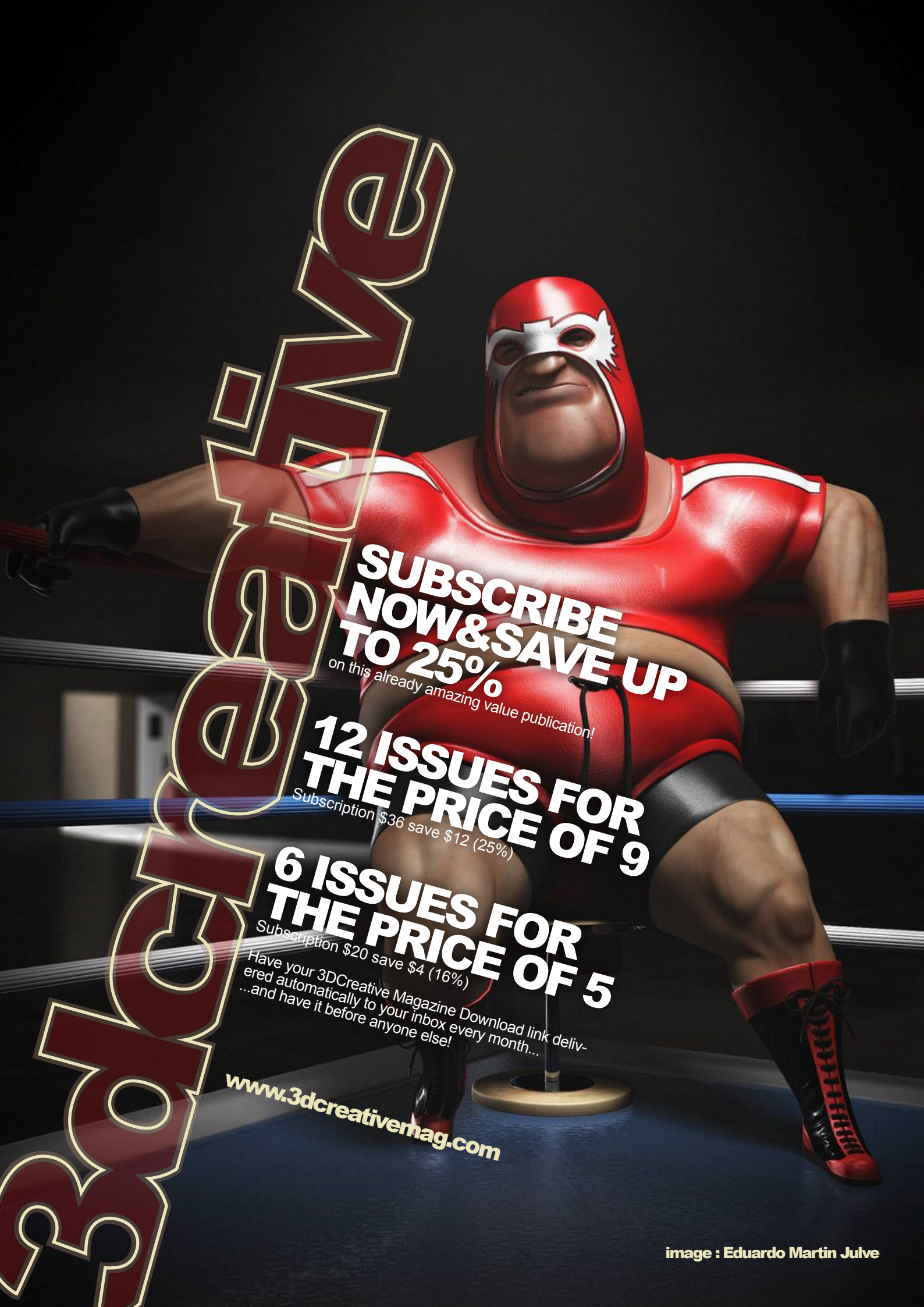
Wade Muller

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Fig11


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HUNTER

"I BRIEFLY EXPLAINED TO HIM WHAT I WANTED TO ACHIEVE AND HE CAME OUT WITH SOME NICE SKETCHES, WHICH WERE PRETTY CLOSE IN TERMS OF THEIR COMPOSITION TO THE FINAL PICTURE"

The Hunter model was originally made for the Hellgate: London Cinematic, by Blur Studio. I later on decided to make an illustration just for fun, using some additional models which I had previously made.



HUNTER

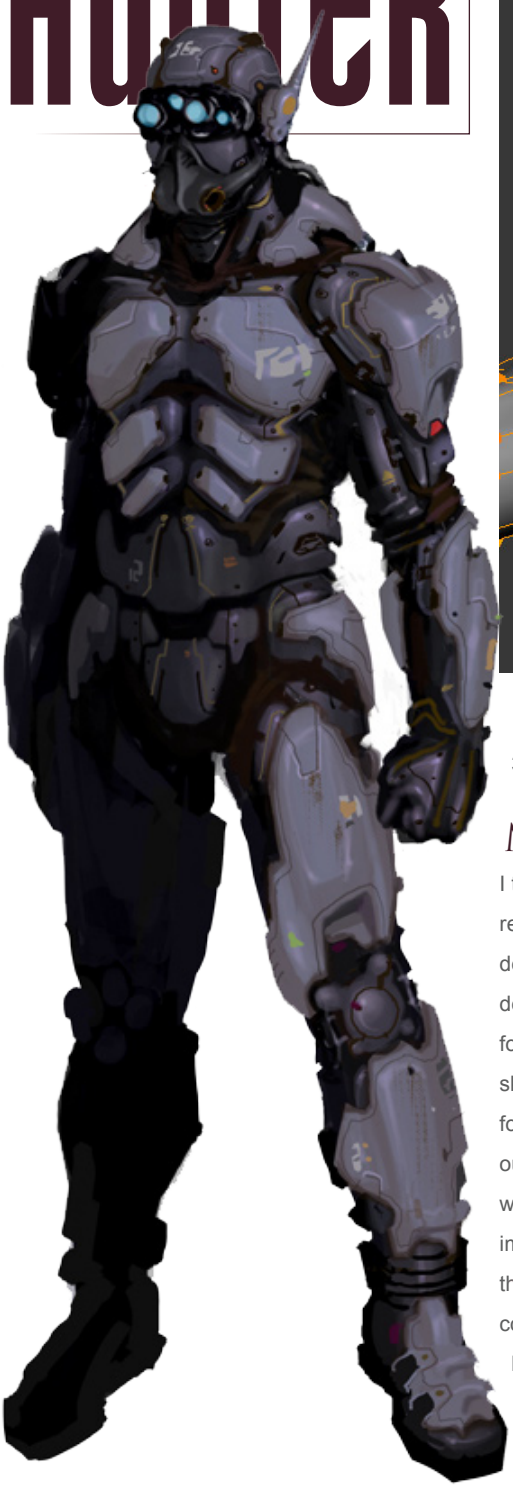


Fig01
Concept by Hugo Martin @ Blur Studio.

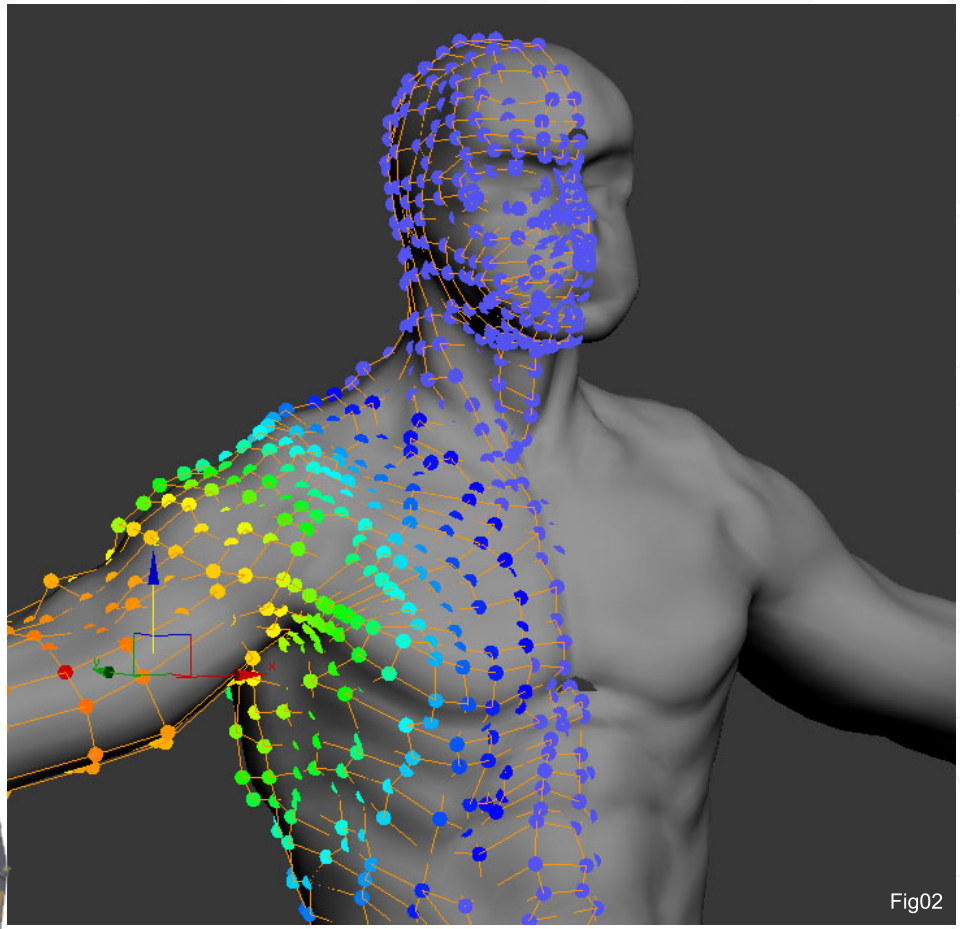


Fig02

Created In:

3D Studio Max, ZBrush, Brazil and Photoshop

Modelling

I tried to stay as close as possible to the given reference (Fig01), which was just a ¾ sketch depicting the main proportions, with some details here and there, and the colour scheme for texturing. Not having an overly detailed sketch is good for me, since it allows more room for personal touches and pushes me to figure out visual and mechanical detailed solutions, whilst still keeping the overall feeling unaltered. I immediately recognised three kinds of elements that I had to deal with: a generic male body covered with a dark grey under suit; a dark-blue, light, rubber armour; and a metallic, light-blue, heavy armour. My modelling workflow was therefore bound to these priorities. Firstly, the body, which sets the figure proportions, would later on have to be covered with armour, and so with this in mind, and a tight deadline to reach, I took a generic, male model which I have made previously and started changing his proportions using the Free Form Deformation Box and Soft Selections (Fig02). As you can see, I left the facial features and most of muscle definition undefined, because those parts were supposed to be covered by armour. Soft Selection is an extremely valuable tool for quickly tweaking proportions, just be sure to also select the Edge Distance, with an appropriate value in its roll-out menu, to achieve a much more localised control of the Falloff. As you will notice in Fig03, I also made large use of the Symmetry modifier during the modelling process, and used TurboSmooth with 2 levels of subdivision set constantly at the top of the stack. By assigning a short-cut to the “show end result on/off” button you can easily model at step zero and immediately see the overall, smoothed result by pressing a button (I use the space bar, for example). Once I was satisfied with the general proportions of the body under the armour, it was time to proceed; covering

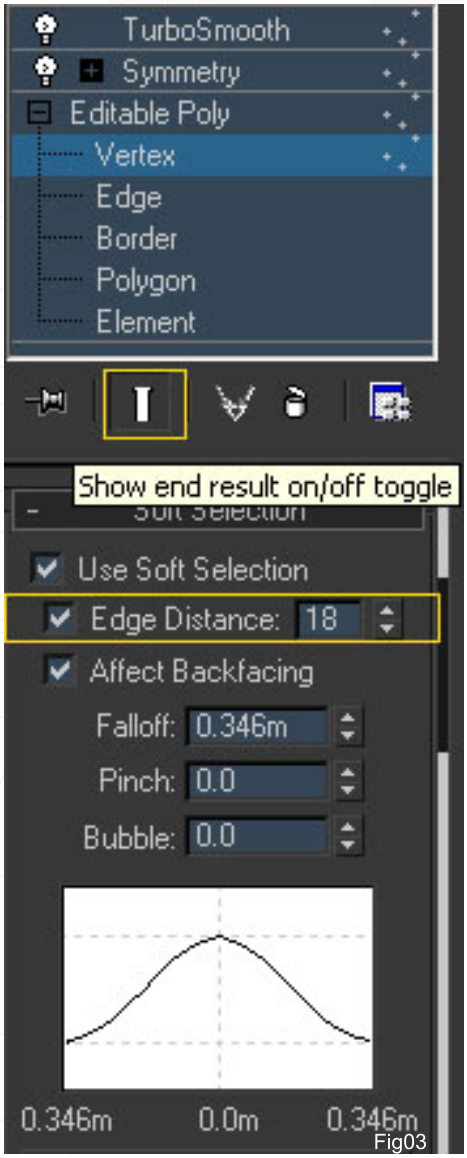
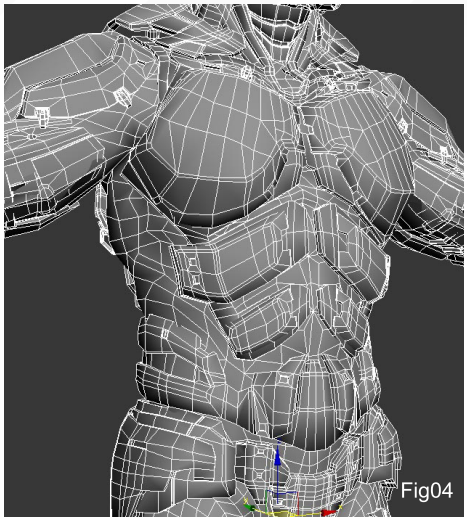
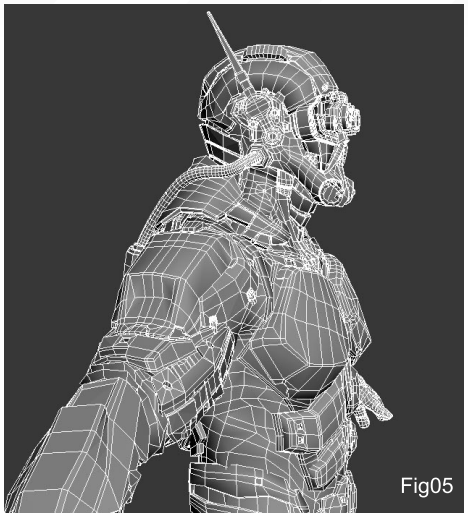
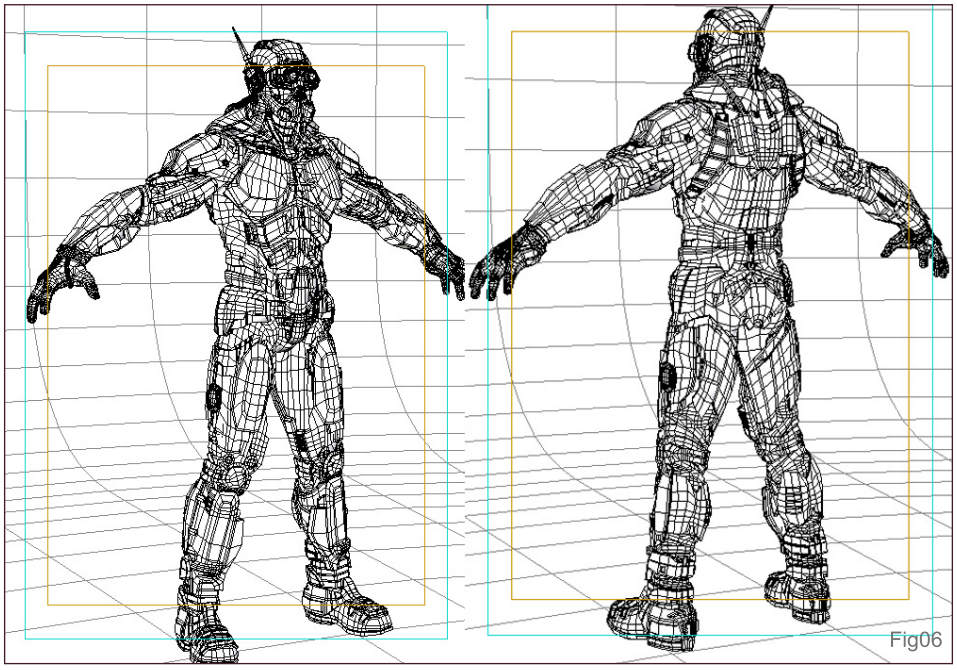


Fig03


Fig04


Fig05

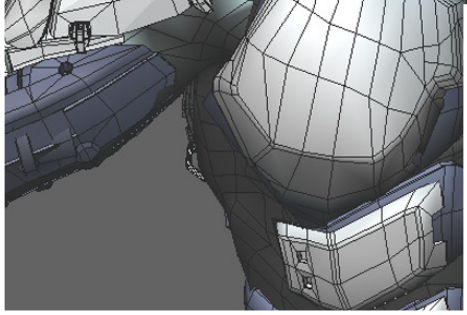

Fig06

the body with metal plates. Of course, the dark-blue ones were applied first since they are seen closest to the body, followed by the light-blue plates. No special techniques were used here, and once again the modelling was in subdivision with the very same stack as shown in Fig03. I usually start with a single quad, and then extrude the edges all around, trying to stay close with the volumes and shapes of the given reference. There was a lot of turn around of the meshes; you need to observe the volumes from almost every possible point of view to be sure that the volumes and shapes are solid, and of course you must also be aware not to not go too far away from the body underneath. When satisfied with the general volume, a Shell modifier helped me to give thickness to the piece. In this phase, I tended not to bother too much about every single rivet, hole or cut; I simply tried to develop a good quad topology of the main volumes. Of course, the topology is achieved by taking count of the main cuts and holes, but the rest can be easily done with a normal map or a bump map - it's up to you to decide whether a single detail is worth being modelled or put into a Bump map. I usually adopt a comfortable criteria, which means that if something looks tricky to me, whether to be carved or extruded into an existing geometry, then I usually put it into a Normal map. When you make something for production you don't usually have enough time to model everything, so you need to set your priorities. (Fig04-06)

As you can see in Fig04 - 06 a lot of cuts are not currently modelled at this point, but have been done with a Bump map. So basically, all the modelling followed this workflow, and most of the detailing, as you can see, has been left to my own imagination (and has been a lot of fun!). After modelling all of the armour I then modelled, in Subdivision, some folds on the body underneath, in areas where they were more visible, like the middle of the arms and the backs of the knees. This presentation of renders was done in Mental Ray; the material is a simple Mental Ray SSS fast skin material, whilst the lighting is just a couple of Photometric Area lights and a back Omni light with Final Gather turned on (Fig07 - 09).



Fig07



TEXTURING (MATERIALS)

Basically, texturing-wise, I divided the mesh by materials, which means that every material shared its unique texture sheet, with very few exceptions. Every piece of mesh therefore needed to be UV edited to achieve this. I found the use of Pelt mapping to be very convenient - and the best choice - for complex shapes like these. After UV editing I usually render a template of the UV (after subdividing the mesh at least at step 1) so that I have a base to paint over the diffuse texture. Fig10 - 11 shows the rendered texture sheet for the metal armour material and the rubber armour material.

The diffuse texture is a mix of photorealistic metal textures, and painted rust and dirt. For this I used a free brush collection made by Andreas Byström (www.ericknelson.com/wurp/dirtbrushes.abr) (Fig12). These brushes were simply great when creating variations of dirt and rust, and having the UV template in a underlying layer helped me to place the dirt, scratches, decals, and everything else, exactly where I wanted it. Material-wise (take for example the light-blue, heavy armour), the



Fig08

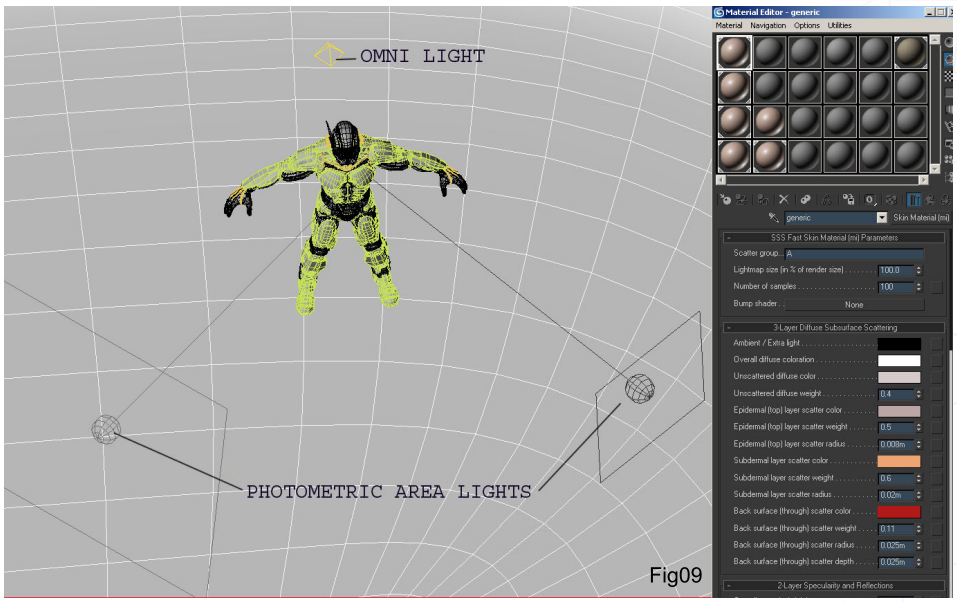
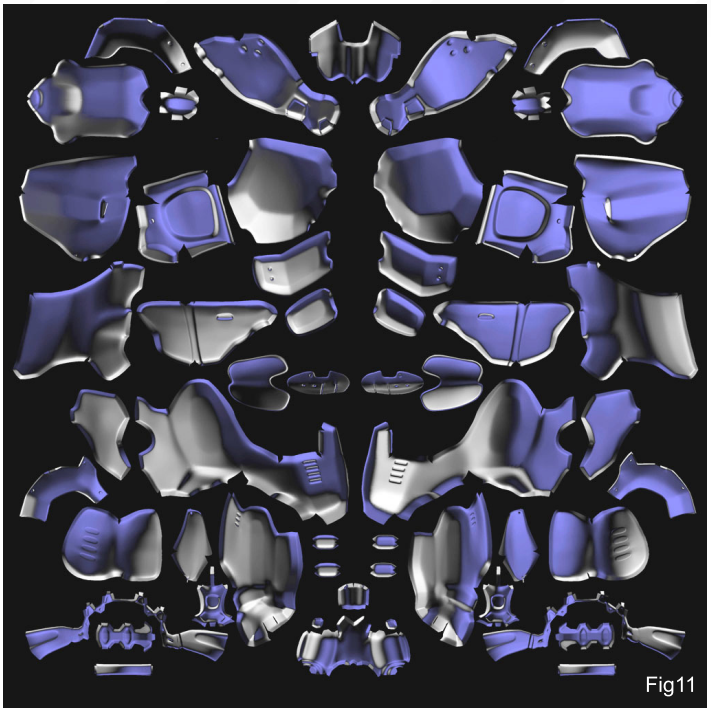


Fig09


Fig10


Fig11

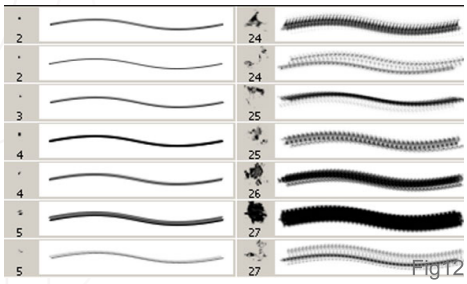

Fig12


Fig13

other few materials were very similar, with few exceptions, like the leather under-suit and some chrome parts (Fig13). Fig14 is basically a Max blend material. The idea behind it was to blend two different materials with the same Diffuse map but different Specular properties. This gave the idea that the scratched areas of the armour have a different, shinier metal underneath. I could have also chosen to have a totally different material sharing a different metal Diffuse map as an underlying metal, but in this case I simply decided that I was comfortable enough with the same Diffuse texture. To blend the two different Specular material properties I used a grey scale mask (Fig15) where the darkest parts were able to show the shinier material underneath. Here, again, when painting the mask I used custom, jagged brushes to achieve a natural feeling of random scratches. Specular maps were derived from the Diffuse map; I usually put a Hue / Saturation regulation level on top of the Diffuse map, bringing the Saturation slide to zero, to achieve a grey scale result. At this

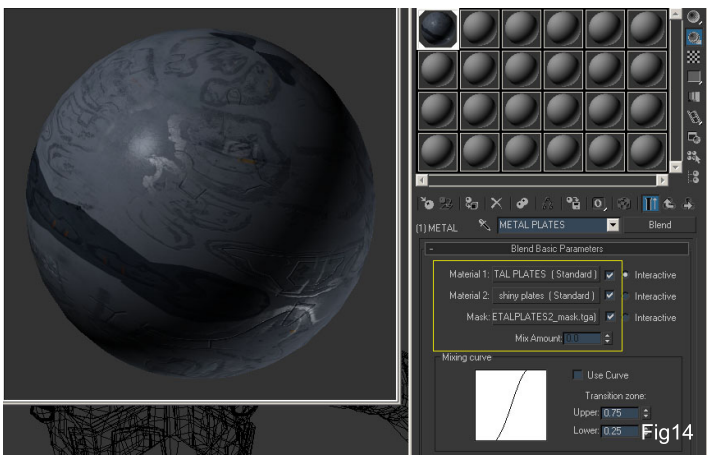
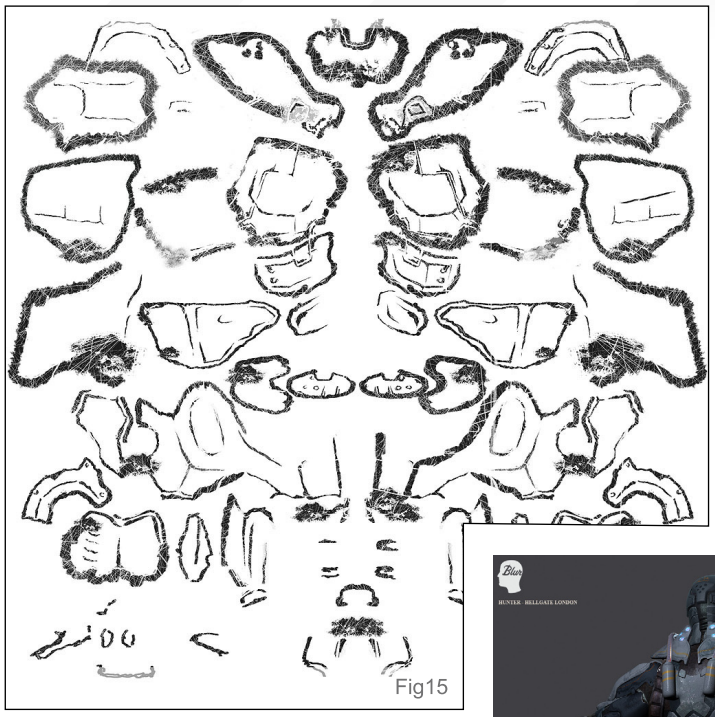


Fig14


Fig15

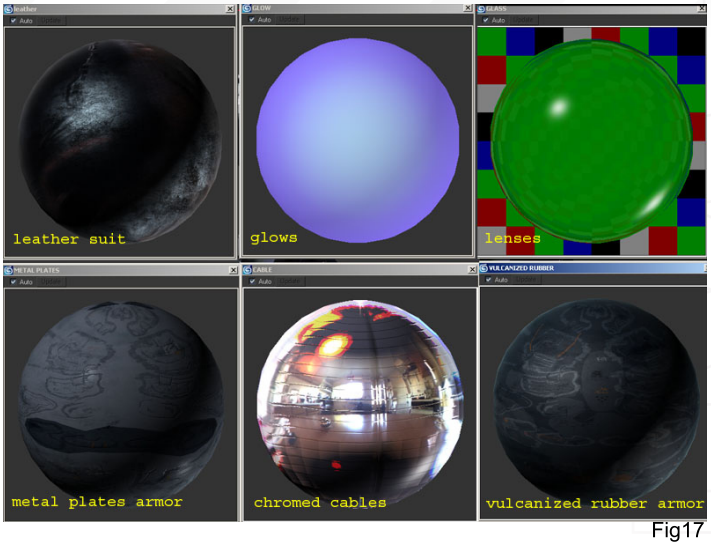


Fig17

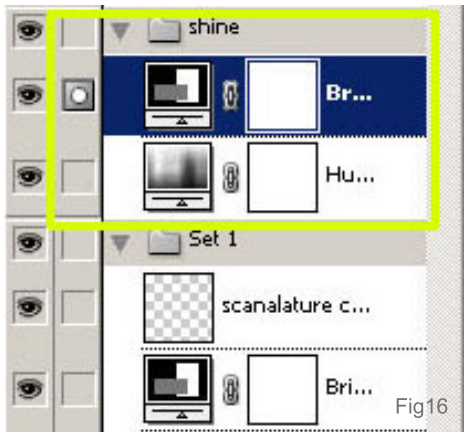
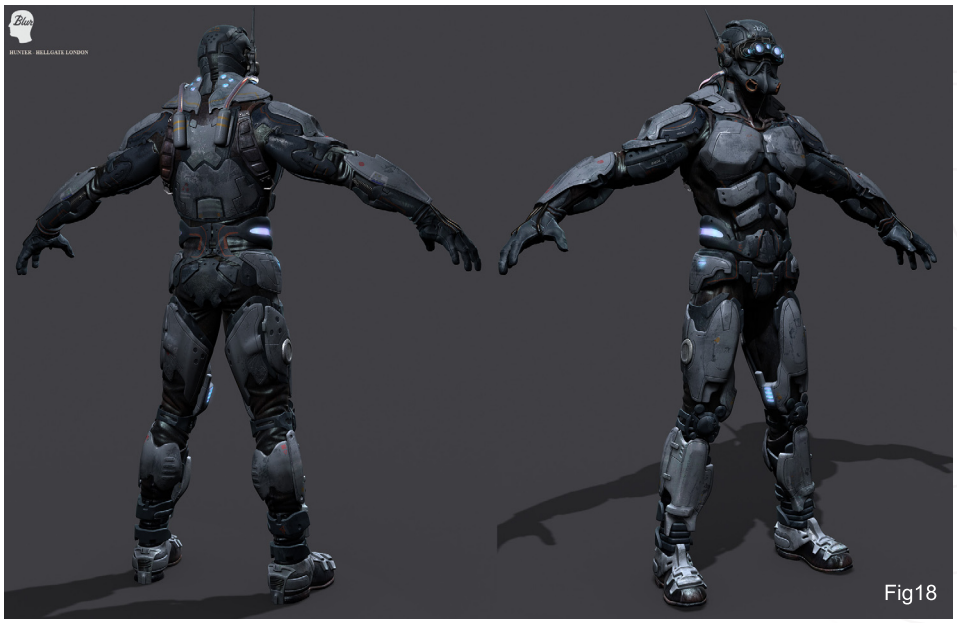


Fig16


Fig18

point I applied another Brightness / Contrast regulation level on top to regulate the intensity of the Specular parts. With both regulation levels in a folder, and having saved the PSD document, allowed me to quickly change parameters for the fine-tuning of the Specular. It was also an interesting possibility to drag/copy the Specular folder on top of a different Diffuse map, therefore maintaining the same Specular values (Fig16). The leather material was just a simple Max material with a fairly high Specularity. Cables were a chrome material reflecting an HDRI map, and glows were just self-illuminated, standard materials. Sample materials can be seen in Fig17. The render was done using Brazil with a simple Spot light and a very low intensity Global Illumination (Fig18 - 19).

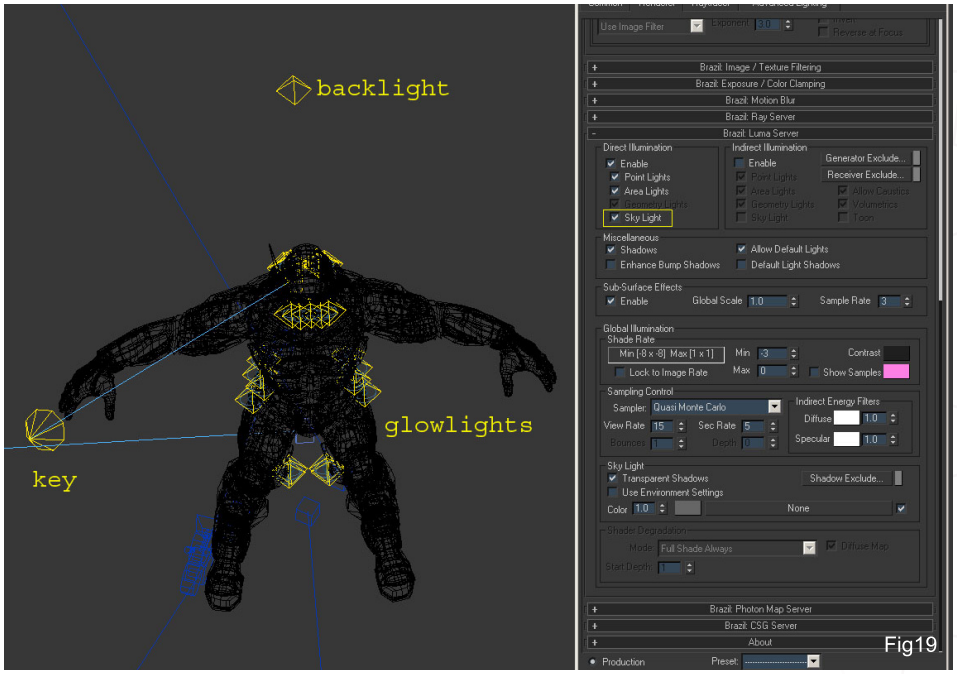


Fig19



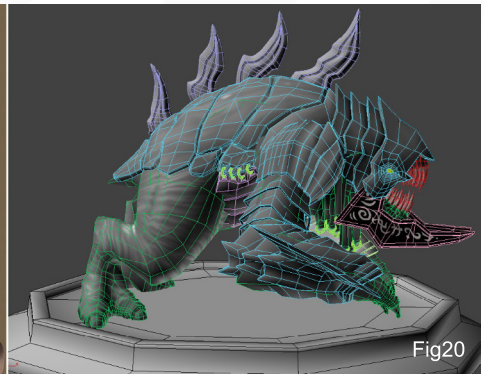

Fig20


Fig21

THE ILLUSTRATION

Already having a monster model which I created some time back for the game itself (Fig20), my intention was to put both the Hunter and the monster, Karnagor, into a nice composition, showing both of them in a sort of relationship. Moreover, everything needed to have hints that the scene was situated in London itself. The monster model was made in Subdivision and most of its detail was created by Normal mapping (sculpting was done in ZBrush). I asked an artist friend of mine, Antonio Mossucca (www.3d50antonio.com), if he was interested in helping me with the composition. I briefly explained to him what I wanted to achieve and he came out with some nice sketches, which were pretty close in terms of their composition to the final picture (Fig21 - 22). The only element I was missing at this point was a model of the Big Ben tower, so I decided to make a fairly low poly version of - not too detailed though because it was supposed to be a background element (Fig23), and most of the detail would have been provided by the texture. I also missed a sort of weapon, and a terrain. For the weapon I wanted something which was used by snipers, with scope - not necessarily something futuristic, but I preferred something which had been more roughly adapted to being used as a flame-thrower. So I collected some rifle references from here and there and I came up with a model for my weapon (Fig24). The first thing I did was put the hunter in pose. I honestly didn't make any skeleton, I just used Soft Selection and Free Form deformations to do this, and it worked pretty well. The same was done for the monster in the background. The terrain was relatively easy to mode; a grid plane sliced savagely to get some nice cracks, with some geometric rocks scattered here and there - no Subdivision was involved at all (Fig25). So when all the desired elements were textured and put into scene, it was time for the lighting and rendering...

Let's say that I didn't want to achieve anything photorealistic, but rather a more painterly feeling. To achieve this, especially when dealing with

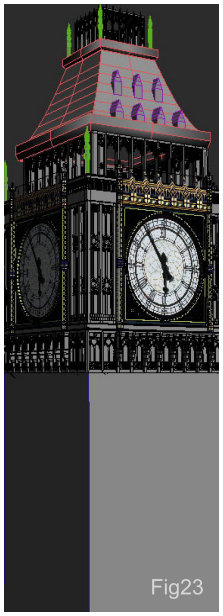
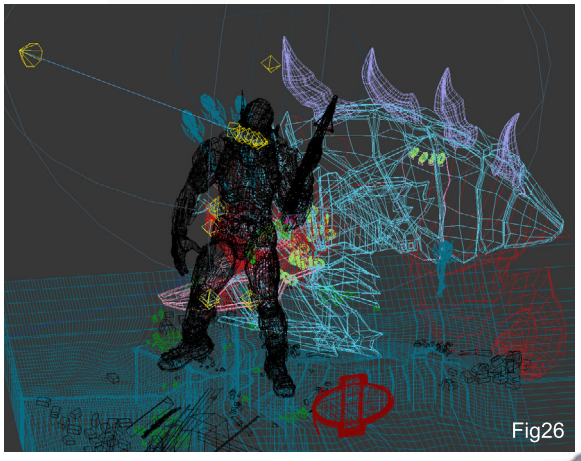

Fig23


Fig24


Fig22


Fig25


Fig26

3D images, the post process done in a 2D application is crucial. So in this case, it was often a waste of time to spend a lot of time in realistic and complicated shaders, as most of their properties would be simply washed out during the post process work. It was better with plain materials and lighting. The basic light setup consisted of a main Spot light (it was better if it wasn't too coloured) and a back Omni light. A few Omni lights were also used for the glowing parts here and there. I didn't involve any Global Illumination, just a plain scan line render, because another pass of Ambient Occlusion was to be used later on (Fig26 - 27). I later made an Ambient Occlusion pass which was to be composited further down the line (Fig28). To obtain this in Brazil was very simple; I used the render pass control and the white plaster materials. It was then time for the heavy post processing work to get underway... Opening Photoshop, I began by setting a mood, by

Fig27


Fig28


Fig29


Fig30

choosing my colour scheme. The base render did not have a dominant colour on purpose; I prefer to have much more control with this in post work (I love flexibility). In this case I wanted to use some warm tones, so I started by painting the background clouds in with brown / red tones - not too extreme in saturation. I put the Ambient Occlusion layer in Multipy mode, with the layer opacity set to around 20%. I also put a Hue / Saturation level connected to this layer, in order to change the hue of the figures to brown and reddish tones, to match in with the lighting of the background (Fig29). As you can see, the rendered Big Ben has been put in a layer behind the main figures, and its colour was also altered.
I painted some smoke in the foreground on a separate layer using a soft-edged brush with a low opacity (Fig30). It was then time to add some scattered fire on a new layer... I made extensive use of some real footage pictures of fire, which I had collected on a black background some time ago when I bought a CA, called Pyromania, full of these pictures. They were pretty easy to composite in Hard Light mode, since the black goes


Fig31


Fig32


Fig33

away and only the flame remains. I also painted a yellow highlight, in Soft Light mode, over the leg of the monster, because I expected some light from the fire to reflect upon it (Fig31). I wanted the smoke to move in the direction of the composition. Painting this was rather simple: a round, hard-edged brush first, for mid-tones and shadows, then it was simply a matter of blending the “blob” together using the Smudge tool and leaving the hard edges in areas where the light source was supposed to hit. The Burn tool also helped at this point to enhance the brightest parts of the smoke. I introduced some painted sparks close to the fire, and added some debris floating around in the air too, which gave a chaotic feeling to the picture and helped it to look less static (Fig32). Things at this point were going to be a little monochromatic, so I introduced some blue-ish tones to the background and the shadows, through the Colour Balance tool (Ctrl - B). I also noticed that, at high resolutions, some of the textures were going to loose their definition. A quick trick to reduce this effect was to put a grey scale high resolution sample of a similar texture in Overlay mode over the interested areas (Fig33).

The final picture can be seen in Fig24. As you can see I made the tones even warmer and more saturated by adding a general, orange, Soft Light layer. Some fog was also added in the background to give to the scene a little more depth. I painted blood splotches onto the monster, and brightened some areas of the Hunter, to make him pop-up more from the rest of the imagery. The lamp featured in the background was painted over of a real, London street-lamp. Thank you for reading!

Fig34



ALESSANDRO
BALDASSERONI

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LADY OF SHALOTT



"I like my character being in harmony with the environment. Therefore, I chose this painting."

In this 'Making Of' Zhang Yang shows us how he made his "Lady of Shalott" - inspired by John William Waterhouse - using Maya and its handy UV tools...

LADY OF SHALOTT

CREATED IN:

Maya, Photoshop, Shave, XFrog and Mudbox

STORY, CONCEPT DESIGN & DRAWING

In the beginning, I wanted to do a portrait of a young girl, with a sort of love story type background, but then I decided to place her into an environment which better fitted her story. Remembering an oil painting by John William Waterhouse, my favourite Master of art, I wished for my own female character to be in such a beautiful picture. I changed the heroine and the environment of Waterhouse's original painting, and made my character expressive through her body language and her abundant expression. Waterhouse's landscape also includes depth and feeling through its aesthetic appeal, which is a common characteristic in my own works; harmonising characters within their environments. This is why I selected this painting as a reference for my work. I had to consider that some people would think that I had just simply copied the original picture, and so I decided to add my own elements - I was not attempting an exact pixel for pixel copy of the painting. I changed the lighting, perspective and atmosphere of the original, and I spent around one and a half months working on it, through which time I acquired a lot of knowledge about traditional art, 3D, and 2D techniques. In the beginning, it took me some time to decide which software and techniques I should use to get the effects that I intended to achieve. I tried very hard to consider the difficulties that I would face along the way, such as the water's wavy surface, the woods in the background, my character's hair, the lighting, and so on.

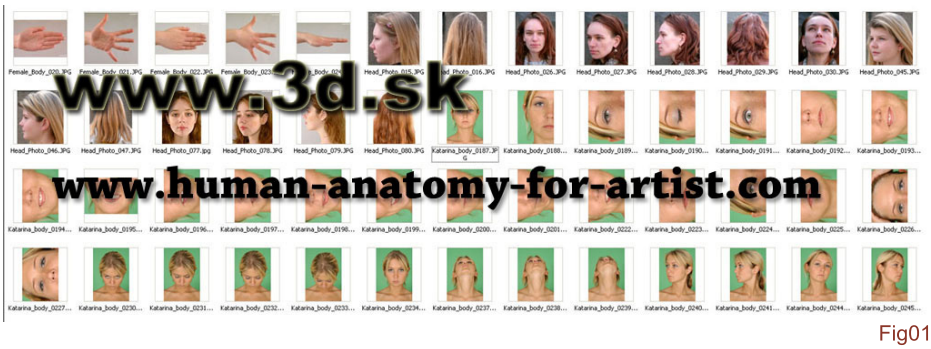


Fig01

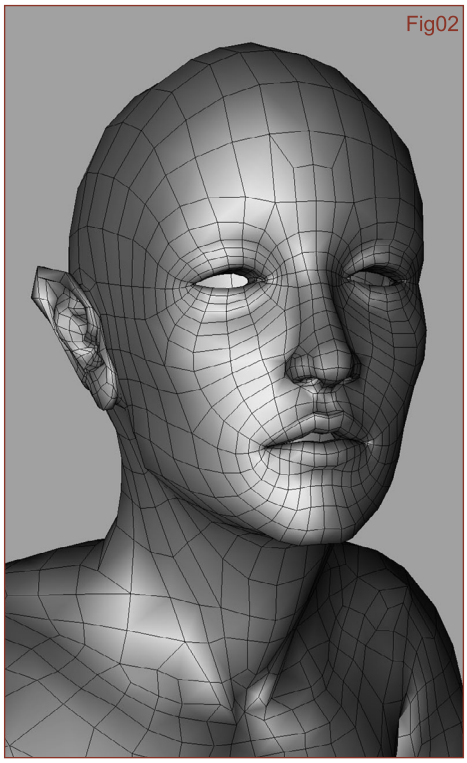
COLLECTING REFERENCES

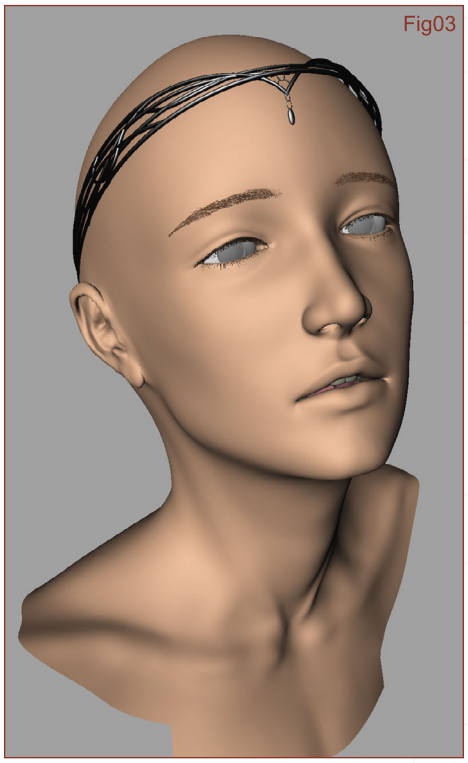
After I finished the concept design, I spent a long time collecting various references, such as human anatomy pictures, human skin textures, pictures of boats and clothing, environment textures, and so on. I should certainly thank www.3d.sk and www.human-anatomy-for-artist.com, because almost all of my references were gathered from these resources. I then modified my design again, using the reference material which I had gathered to inform my work (Fig01).

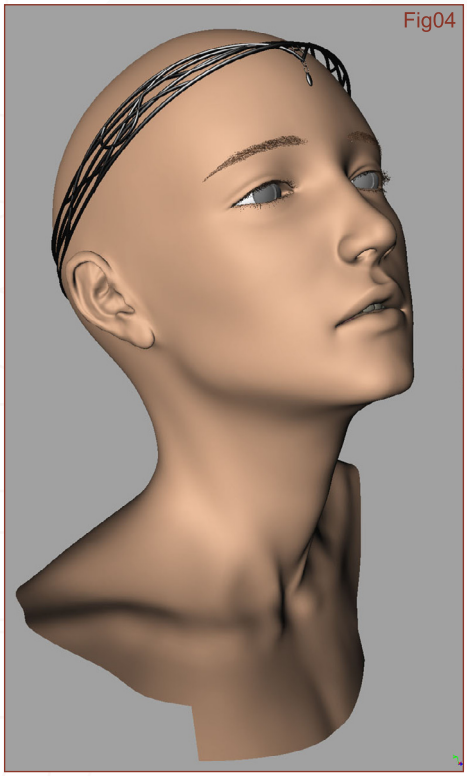
MODELLING, POSE & LAYOUT

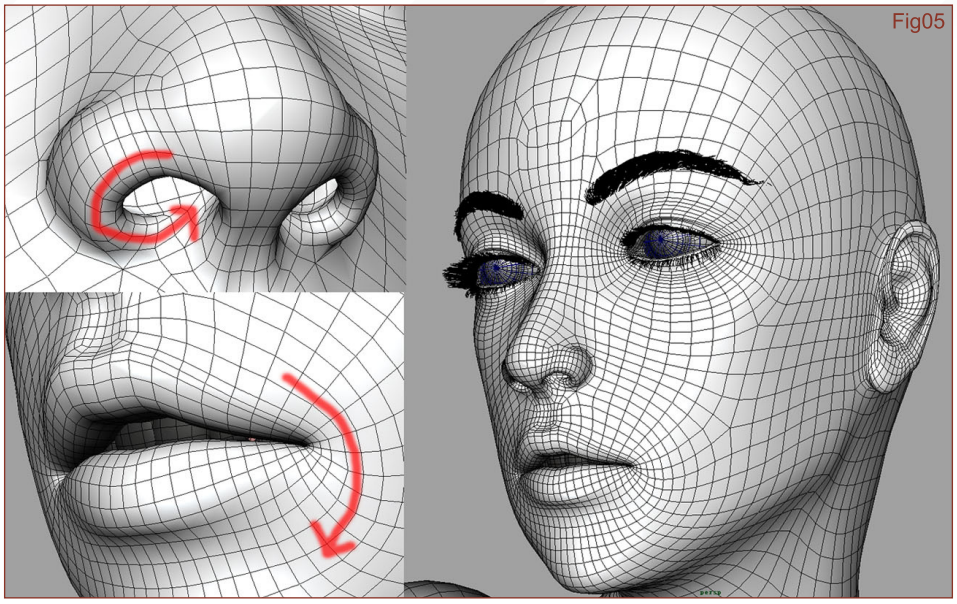
Moving on to the low-resolution modelling process, my character was modelled in Maya.

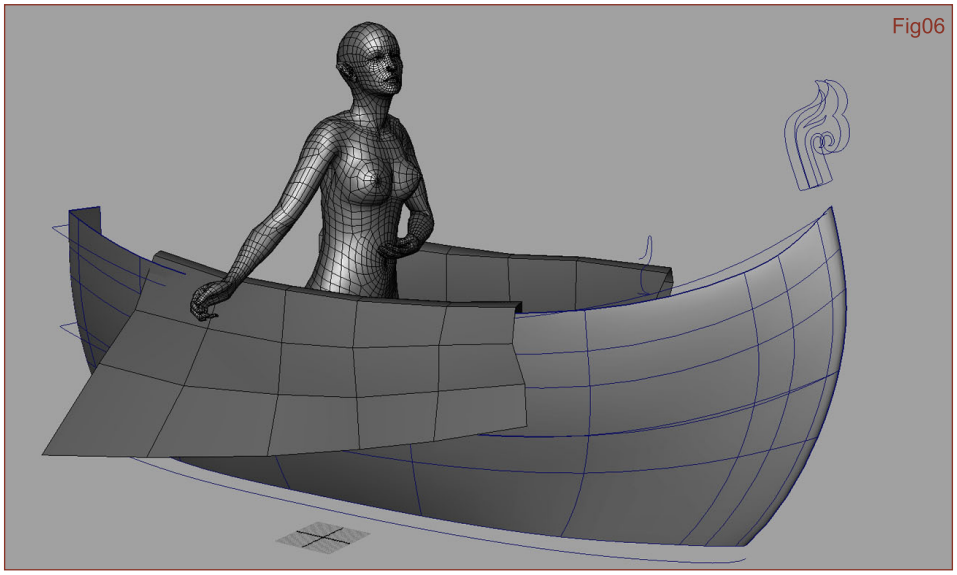
Firstly, I modelled a standard, human body and spent a lot of time on the topology structure. At this stage I didn't use any reference material; I just let her look like a 'normal' person, then went on to create the teeth, eyes and hair. The eyes are two-layer models; one layer was used to catch the Specular highlight and reflectivity, whilst the other one was used to place the colour textures. I also used NURBS patches to create the hair's initial style. After all the elements were finished, I started to adjust her facial characteristics, making use of some of my reference images and, of course, Waterhouse's original oil painting. I didn't want my role to look too desperate or painful, so you can see the wireframes of the character's head in Fig02 - 05. You especially need to take

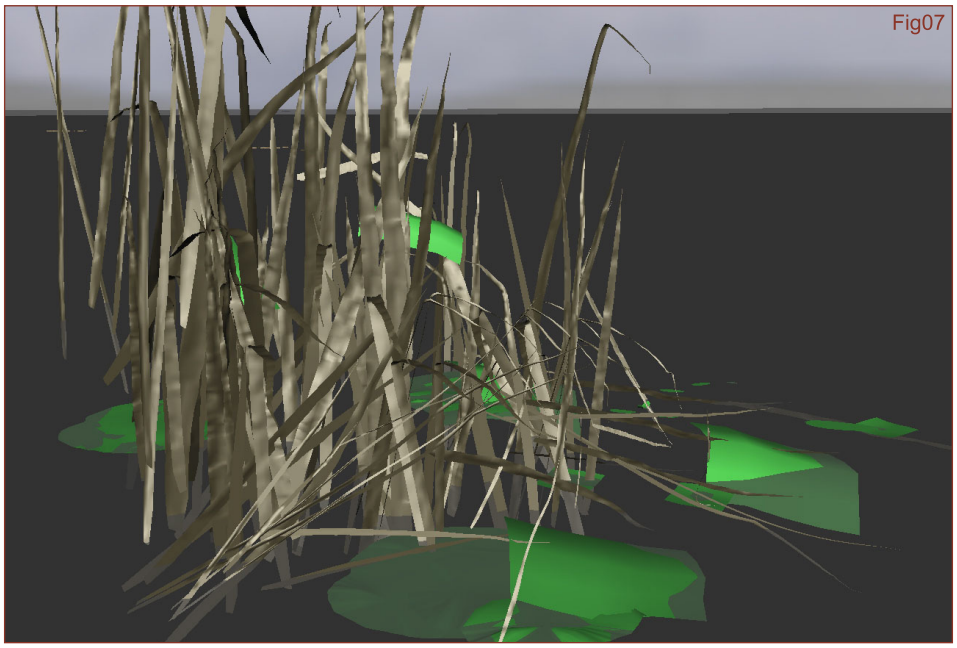

Fig02


Fig03


Fig04


Fig05


Fig06


Fig07

care in the places which have been marked with red arrows (Fig02-05). After finishing the character modelling parts I simply bonded the model together, and then placed it in my required pose. I had to consider my model in relationship to the original oil painting. When I achieved a satisfactory pose, I copied a new character model and then hid the original model. The rough, low-resolution model can be seen in Fig06. I applied clothing to the body of my model, then modified the topology structure and the appearance of the character, all the while taking into consideration the materials and the gravity of the clothing. I didn't use Maya's cloth system because I wanted more control and freedom over it. I modelled her hands separately, so that I could save more RAM and also so that I could control the hands' shader separately. The long grass in the foreground was modelled by hand, because this was the only way I could achieve a satisfying result. I first modelled various forms of grass, then placed them into my scene and duplicated them to make more. I mainly used the Soft Modification Tool to modify the grass, because this process required more care being taken. The grass and leaves in the foreground can

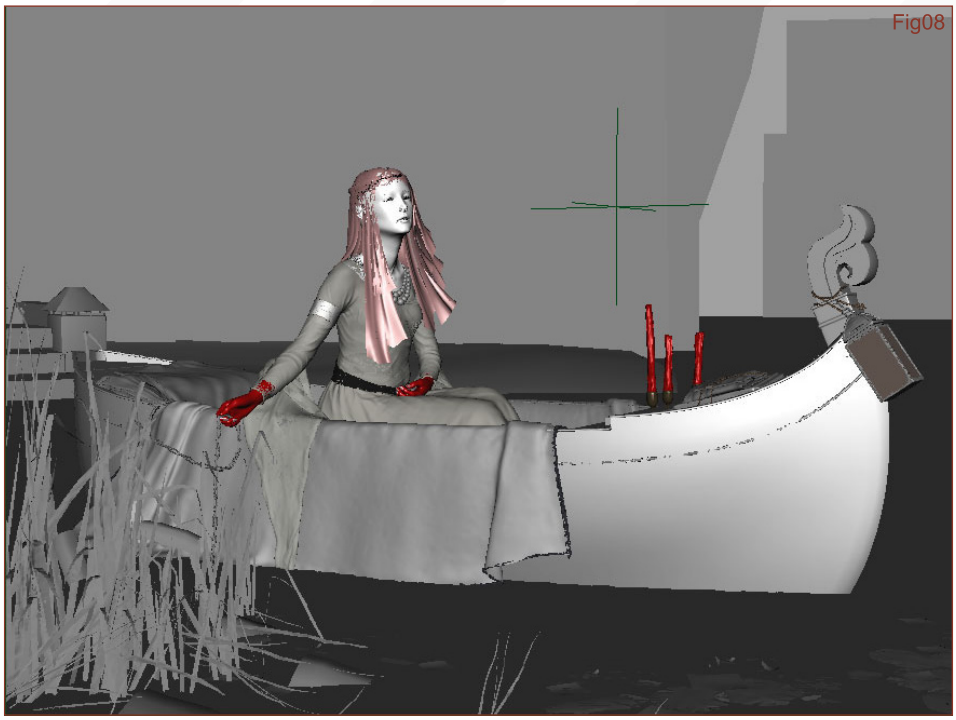

Fig08

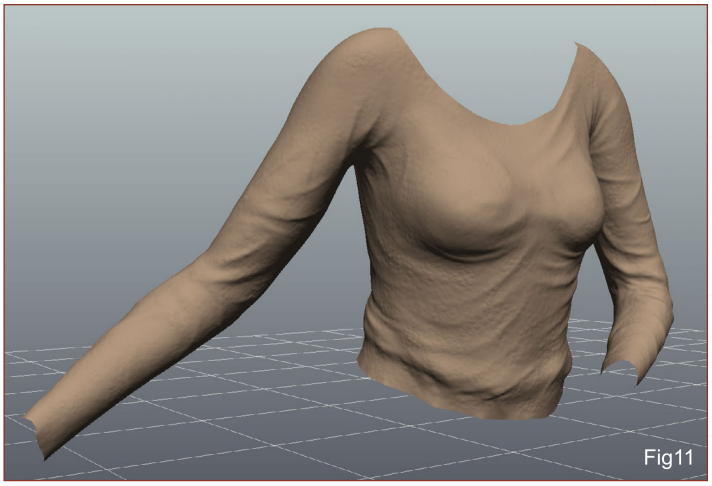

Fig09


Fig10

be seen in Fig07. There was nothing special about the other elements in the modelling process. **Tip:** we can sometimes use texturing instead of modelling, for example on some leaves and grass which can be hard to see. When I finished all of the models, I then needed to carefully place them so that they work well for me (Fig08).

Re-modelling

After the layout of my models I began the high-resolution modelling process. I adjusted the body's appearance in Mudbox, added more details, and then took it back into Maya. The high-resolution modelling process for the clothing was the same as for the character, however more attention needed to be paid to the creases in the clothing. The hands also required more detail (Fig09 - 10). For the other elements, I focused upon creating "imperfect realism" when it came to the prop models and the environment (broken edges, scattered objects, and grass). I paid a lot of attention to placing of my objects, creating depth in the scene, and matching the composition of the original oil painting. The main high-resolution models can be seen in Fig11 - 14.


Fig11

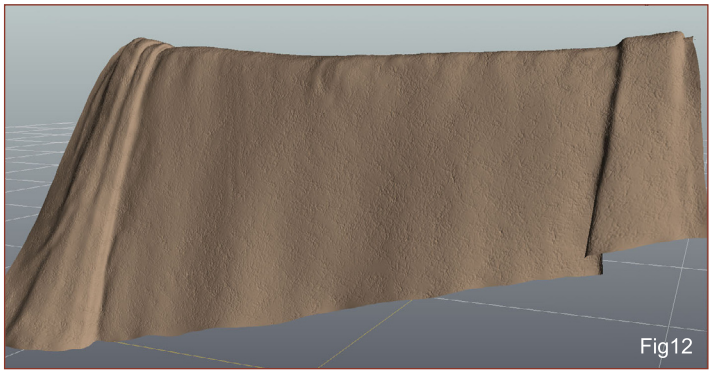
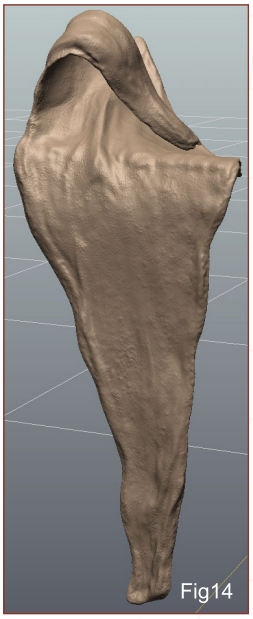
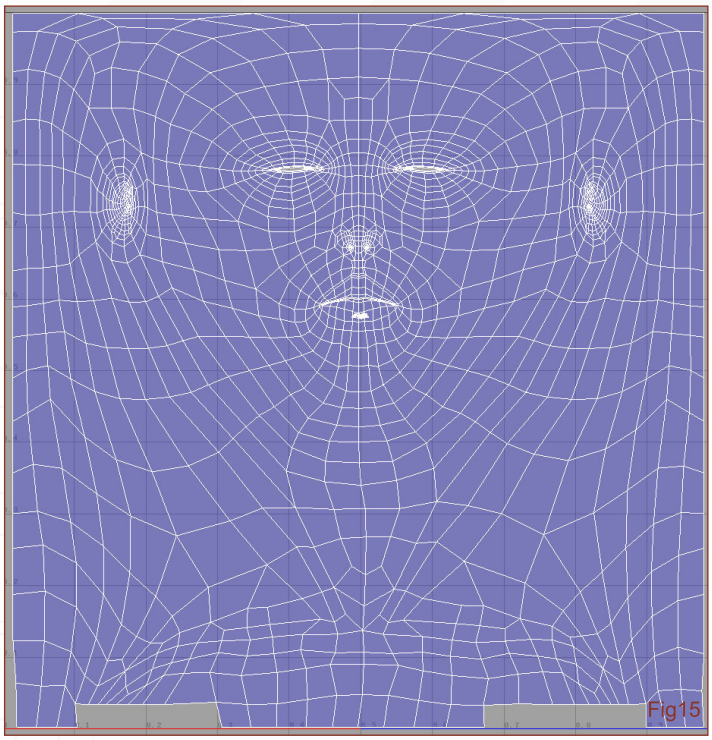
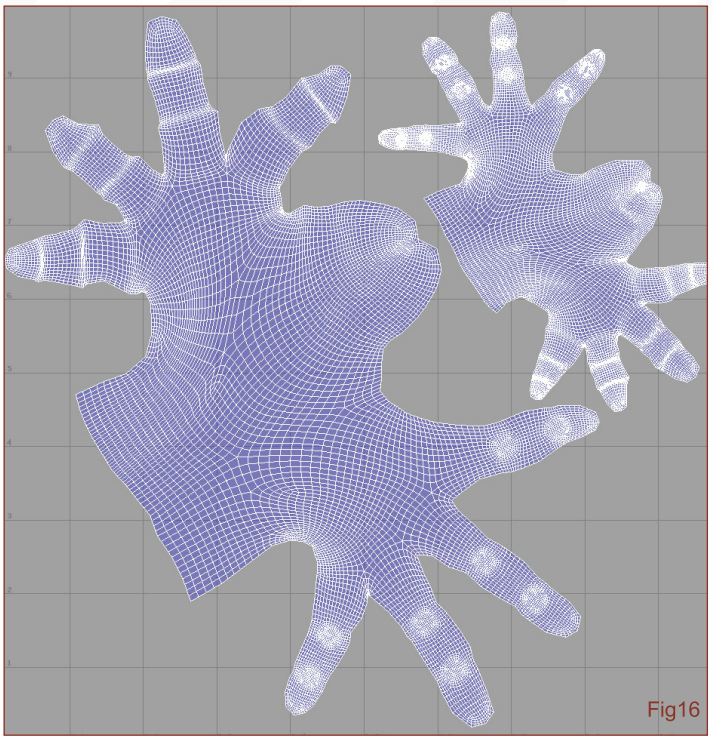

Fig12


Fig13

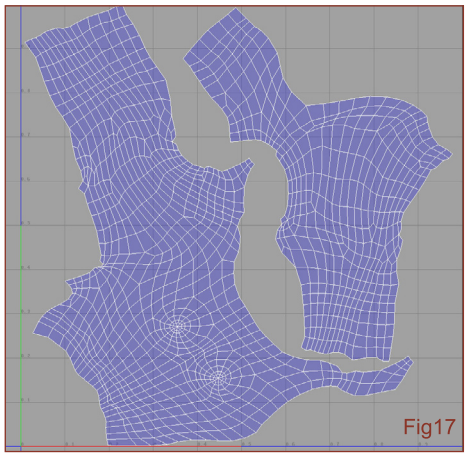

Fig14

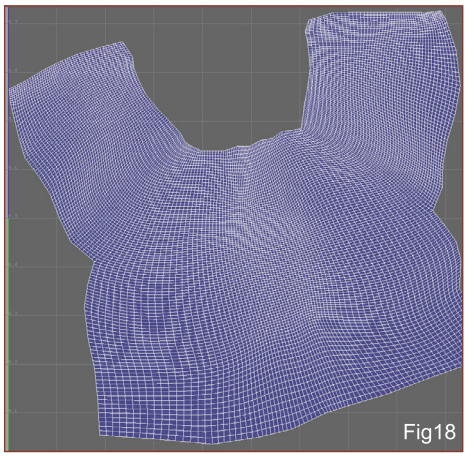

Fig15

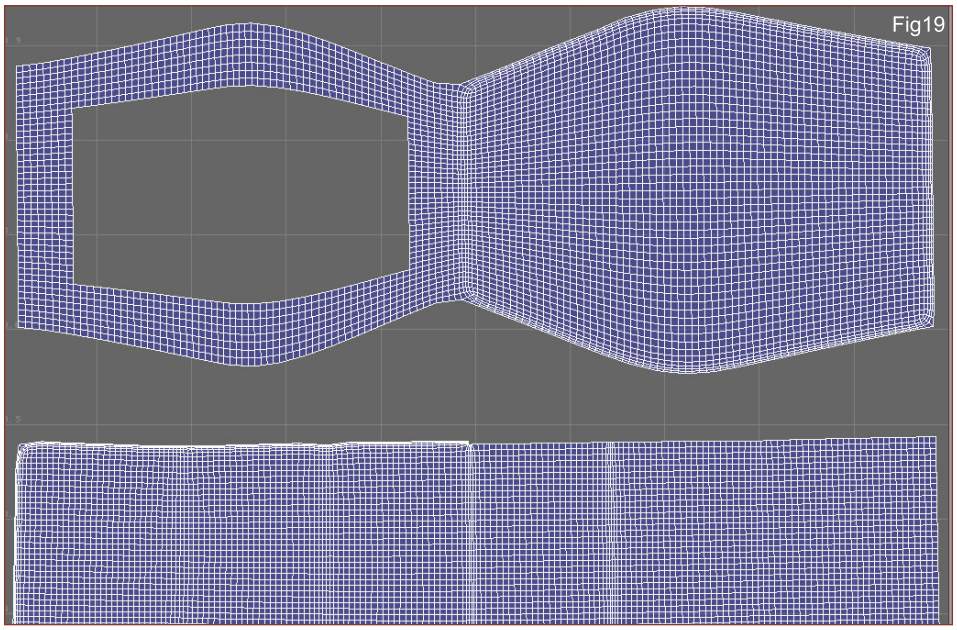

Fig16

UVs

I set the UV according to the normal method. I prefer to finish all of the UV process in Maya, because Maya's new version contains a powerful UV function. I used Cylindrical Mapping for the head's UV, and I mixed methods together for the UV of the other elements. You should pay close attention as to whether UVs are good or bad, have a direct relationship with drawing textures, and so on. I often let the parts which can be seen take up more UV space, although this won't work for cartoon styles. You can also use other UV tools, such as DeepUV. See Fig15 - 19 for the main elements of my environment.


Fig17


Fig18


Fig19

Texturing

My works all have a realistic style, so there is much work involved in the texturing process. Almost all the textures used for this character were 3072 by 3072. Because there were so many things in the environment I decided to use small textures for the objects in the distance, and for some less important things I just used a Colour map, and no Bump map. First of all, I created the Colour map by hand painting, and used some photographs in Photoshop. Colour maps require care and attention because there

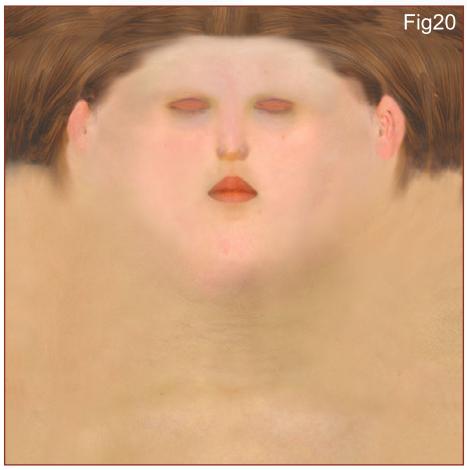
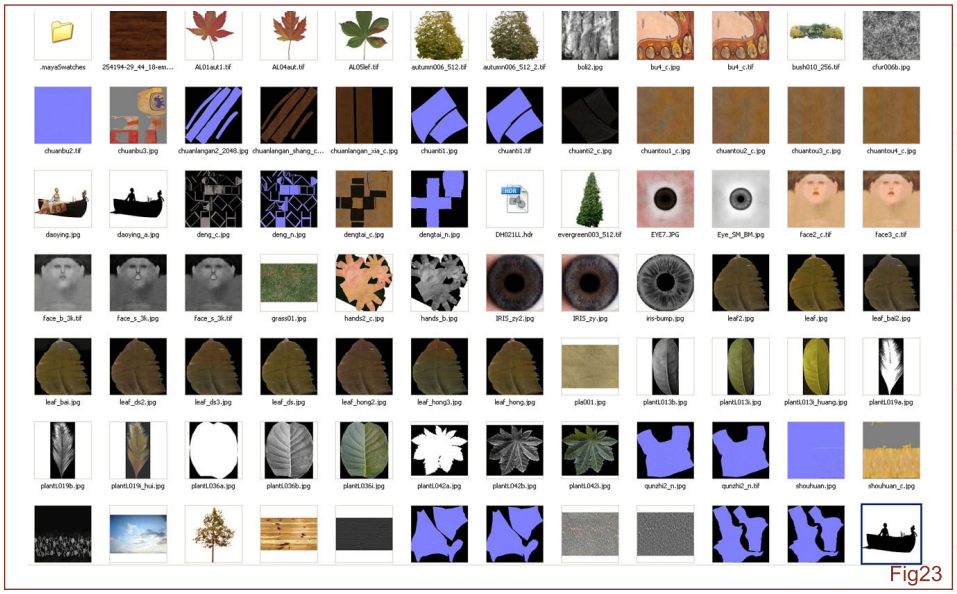

Fig20


Fig21

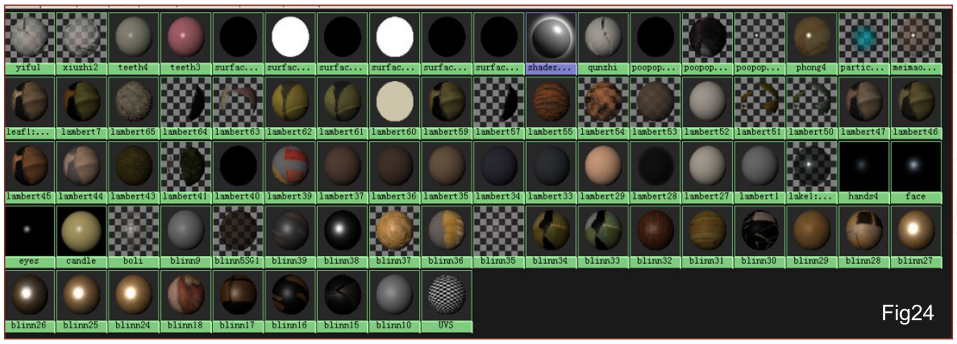

Fig22

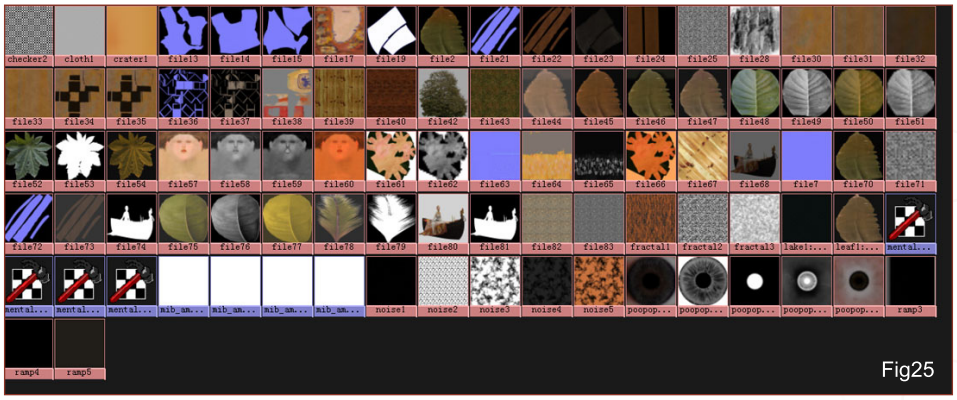
are so many pores, patches, veins, muscles, and bones below the skin, and so the skin's colour has many changes and variations. When I finished the Colour map, I desaturated the colour and made the Bump and Specular maps. I then changed the tone and details of the Colour map to the Epidermal Scatter Colour, Subdermal Scatter Colour, and then changed the Specular map to the Reflection map. I also overlaid a Noise map on the Reflection map so that the Refraction map looked more random. I achieved a very detailed Normal map in Mudbox by using a high-resolution model. I used body paint to remove texture seams and made all other textures in the same way. The main textures can be seen in Fig20 - 22. In addition to all the above, I also have my own texture collections to satisfy my special requirements. Fig23 shows my "storeroom" of plant textures, and all other textures used for this piece.

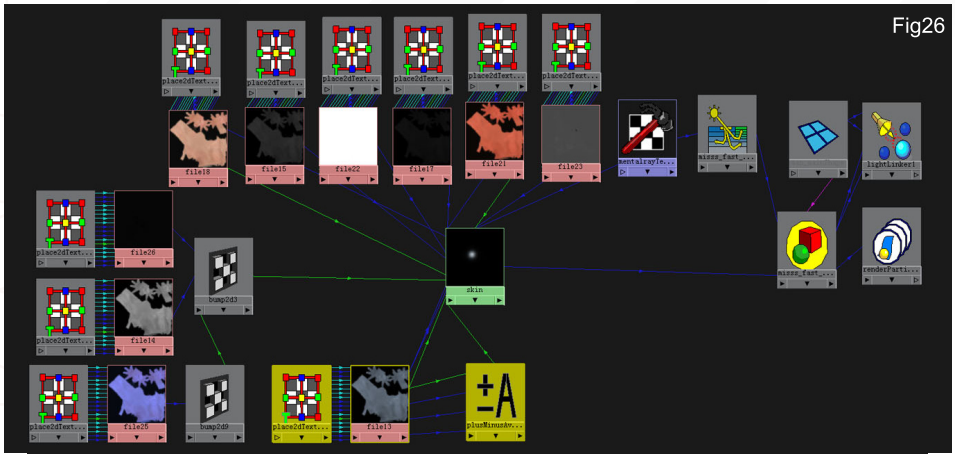

Fig23

Materials & Skin Shade

There are different kinds of materials used in my works, including wood, metal, glass, plants, skin, and so on. What I needed to do was to make them look different. Fortunately, Maya is a great software containing many different kinds of shaders. I generally used Blind to do wood and rough metal; Phong for glass and water surfaces; Lambert for dry grass and cloth (Fig24 - 25). Someone once asked me how to connect Mental Ray Fast Skin shader, but everyone has their own way. In my own opinion, I think that it's best for controlling every parameter as best as


Fig24


Fig25


Fig26

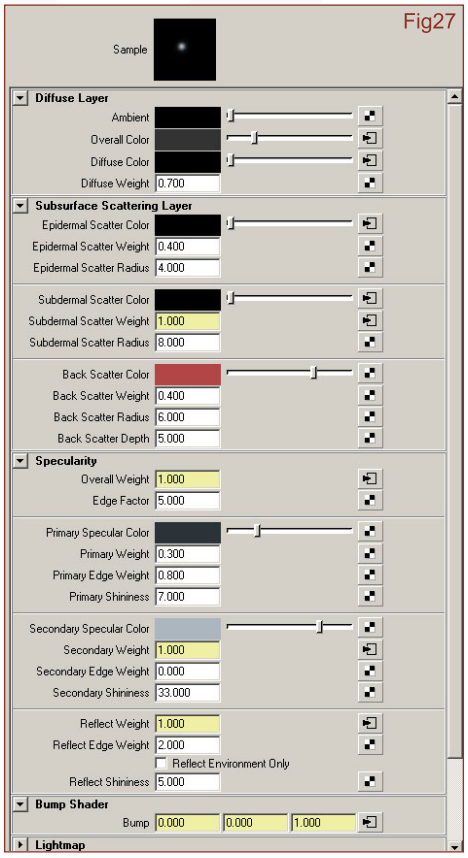
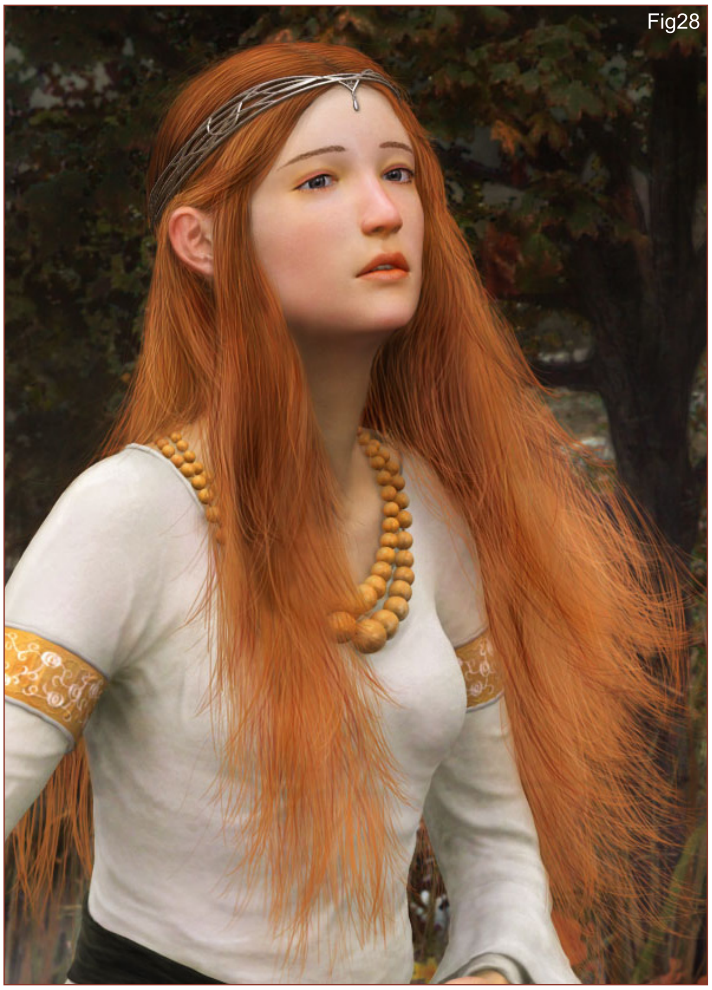


Fig27

I can. I therefore used about eight maps to control the more important parameters (such as Diffuse Colour, Epidermal Scatter Colour, Subdermal Scatter Colour, Primary Weight, Secondary Weight and so on). My own experience is that we can connect a Colour map to an overall colour or diffuse colour, but their effects have great differences. If there is some pure black in your colour map then you shouldn't connect it to overall colour, because if you do so then your final rendered image will have some pure black. In addition, the SSS effect of some places, like the ears, cannot be too high, that is not being too reddish, because a real man wouldn't be like that. Instead we need the feeling of skin to be somewhere between plastic and wax. My network and parameters can be seen in Fig26 - 27.

Lighting

I was then able to move onto testing my lighting, for which I used Mental Ray's IBL with an HDR picture and several lights, for this special purpose. Some were used to simulate the lighting of the original oil painting, some were for Global Illumination, some were for achieving higher details with negative intensity, and were used some for highlights. I also added a Spot light in the top, left corner of the whole picture, to create a beam of light. The purpose of this was so that I could make the whole scene more unified and hopeful. Because the beam of light was formed from Light Fog, in order to achieve more detail I overlaid a Noise layer onto the Light Fog.

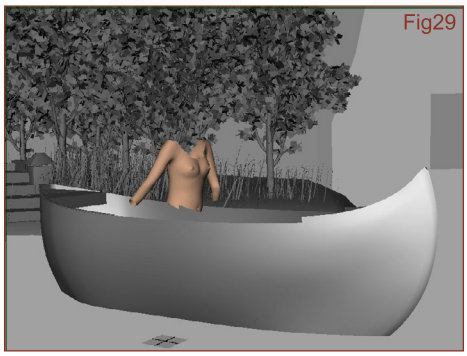

Fig28

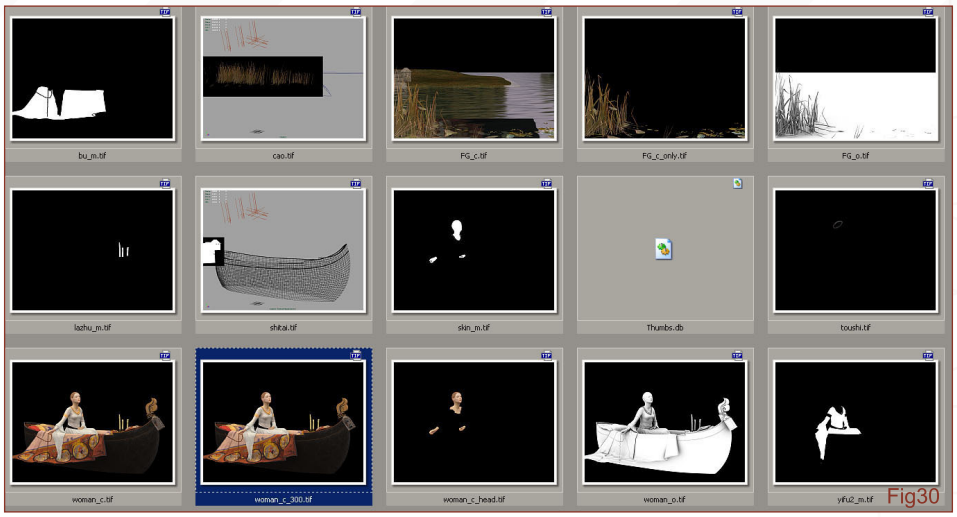
Hair & Fur

I used Paint Effects to finish the character's eyebrows and eyelashes in Maya (you can also use textures to do this, of course). The character's hair however needed much more time. I extracted curves from the original NURBS patches to become the guide of the Maya plug-in, Shave And A Haircut, by Joe Alter. The hair had to be in harmony with the tone of the face, and also needed to be blowing in the wind (Fig28).

Matte Painting & Background Plants

Because this is not a matte painting tutorial, I won't say too much about this stage. I used a Maya plug-in, Xfrog V4.0, and a 2D texture plan technique, to create the woods. I must thank Xfrog here, because it makes enough details of 3D plants for matte painting, however I did spend a lot of time adjusting and testing this plug-in so that it would


Fig29


Fig30

work better for me (Fig29). (You can visit www.greenworks.com where there are many tutorials about Xfrog.)

Rendering

I rendered the image multipass, which allowed me to easily modify and control the passes. How many passes, and how to set the render passes, is different for other works. I rendered the character, clothing, boat, and water, separately. This cost a lot in time, but I was able to easily compose them this way. You can see some render passes in Fig30.


Fig31

Composing

I put all the layers into Photoshop and made use of my skills to get them


Fig32

working better. For example, I used the Lens Flare to create an atmosphere, adjusted layers to correct colour, added a Noise effect, and so on (Fig31 - 32).

Refining

I finally refined my picture even further, to make it better still, by adding more details to the grass, sharpening the picture, and so on.

Zhang Yang

For more from this artist visit
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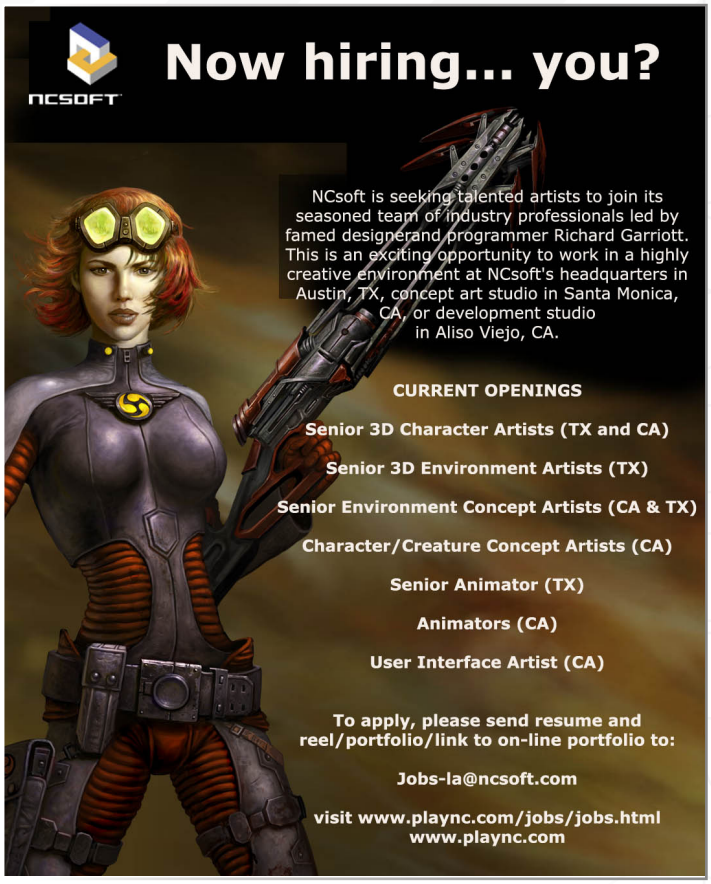
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Tuc-Tuc

3ds max

Is our new precise step-by-step tutorial which will begin with a vehicle model and cover the principals of applying shaders, placing it in a simple scene, and following with a two-part section on both lighting and rendering. The tutorial will begin by creating and applying materials for the various parts of the car, such as glass, chrome and tyres, as well as texturing some simple geometry that will make up a scene. It will then move onto lighting where the focus will be on setting up a lighting rig and the various parameters connected to this. Finally the series will culminate with a section on rendering, where the aim will be to finish with a polished image. The schedule is as follows:

Issue 017 January 2007
Applying Materials & Shaders Part 1

Issue 018 February 2007
Applying Materials & Shaders Part 2

Issue 019 March 2007
Lighting Setup & Rig (with HDRI) Part 1

Issue 020 April 2007
Lighting Setup & Rig (with HDRI) Part 2

Issue 022 June 2007
Rendering Part 1

Issue 022 June 2007
Rendering Part 2

Enjoy ...

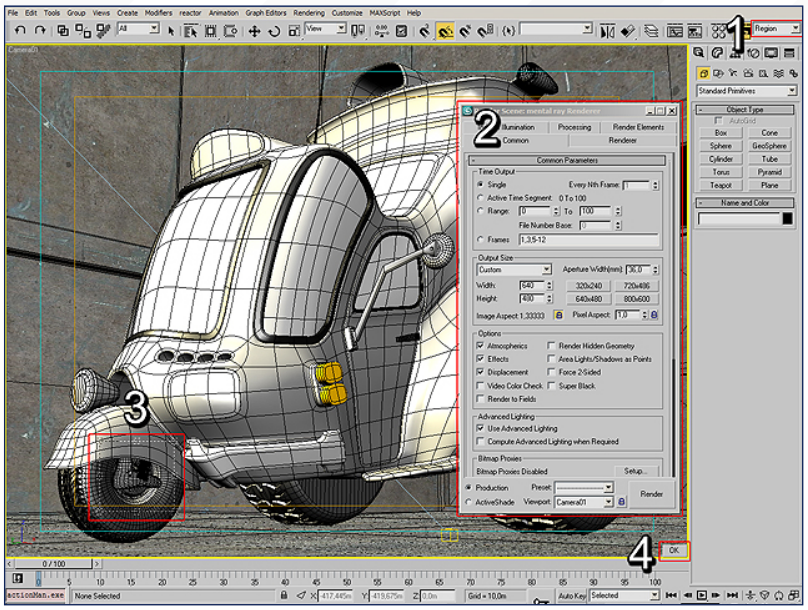
Rendering Part 2 Part 6

Rendering Optimization and Post-Production in Adobe Photoshop

Well, here we are with the last part of the Tuc-Tuc tutorial. We'll briefly cover two important aspects of the rendering task: Sampling and Post-Production. Adaptive Sampling is the way Mental Ray handles aliasing problems. Let's see how...

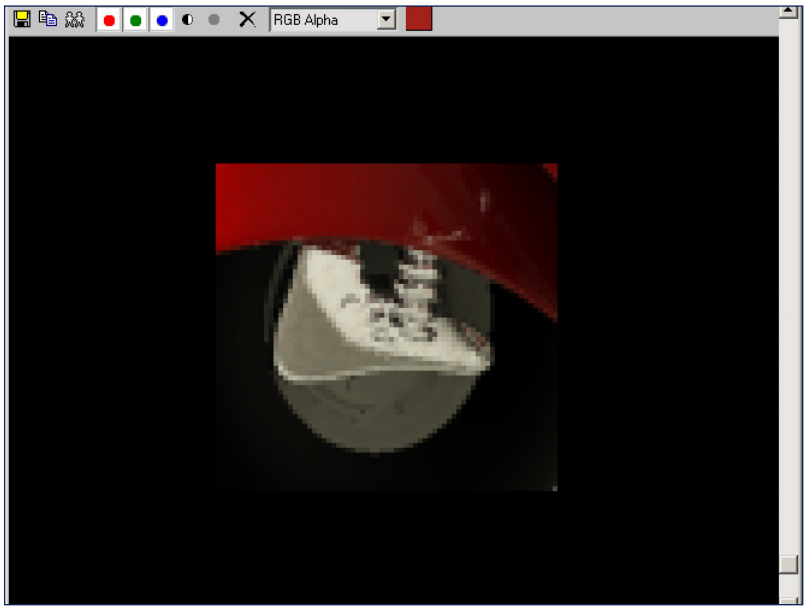
1. Here we'll use the Region render, because we will have to do a lot of quick test renderings to see how the sampling affects the image quality. First of all, set the Rendering Type to Region (see 1 in Fig01). Open the Rendering Panel (<F10> hot key) (see 2 in Fig01) and hit the Render button. The Region rendering rectangle will appear in the viewport (see 3 in Fig01); re-size it and move it to where you need it (choose an area with a significant amount of details, like the front wheel). Finally, click on the OK button to start rendering (see 4 in Fig01).

Fig 01



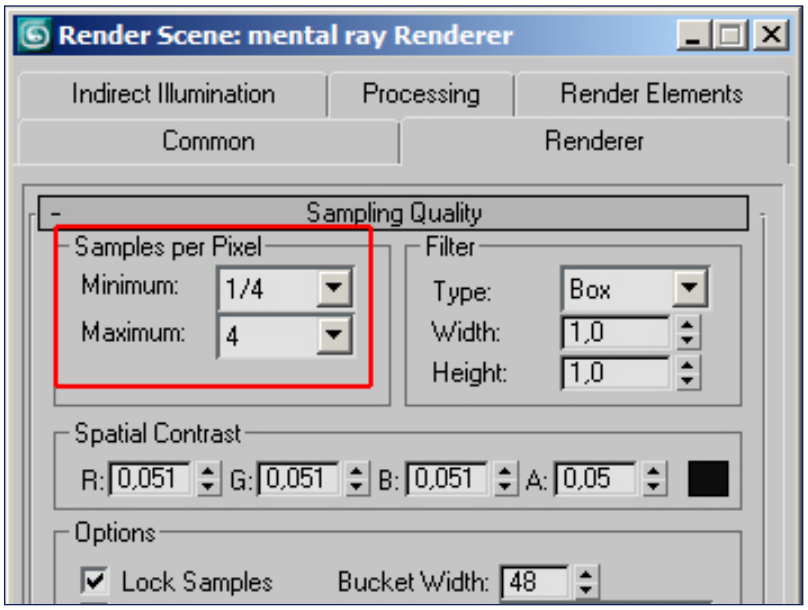
2. In Fig02 you can see the rendering window which shows a close-up (4:1 zoom) of the front wheel. As you can see the image quality is quite poor, since the sampling settings have the default values to give a good compromise between time and quality.

Fig 02



3. Open the Rendering panel once again, and select the Sampling Quality roll-out menu in the Renderer tab (Fig03). Here are the parameters that control sampling and anti-aliasing.

Fig 03



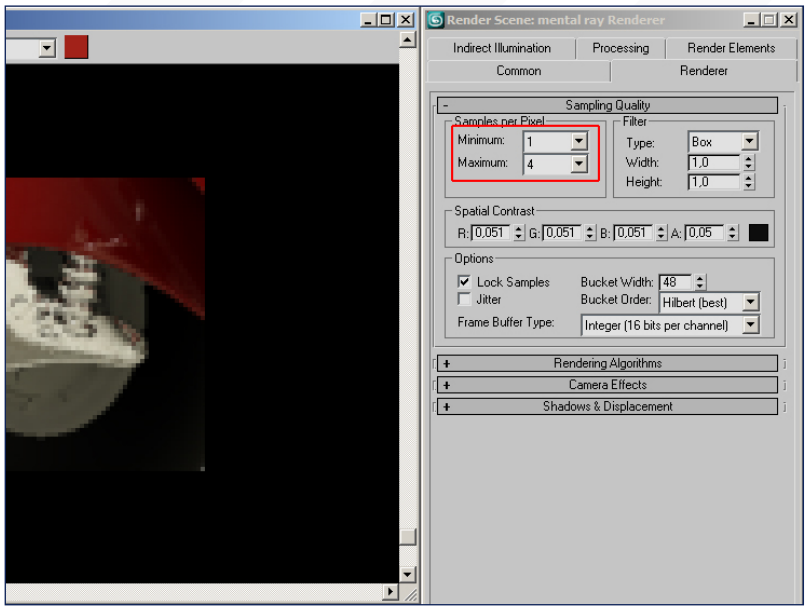


Fig 04

4. Set the Minimum value to 1 and the Maximum value to 4, and then render again (Fig04). There is still no significant difference for render times using these values.

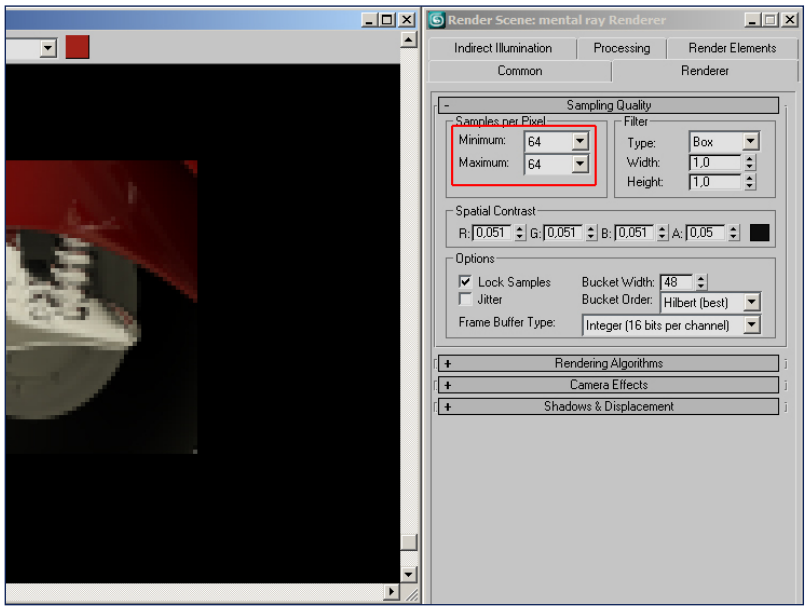


Fig 05

5. Now set both Minimum and Maximum values to 64 and prepare for a much longer render time (Fig05). It takes longer to render, but the quality of the image is noticeably better.

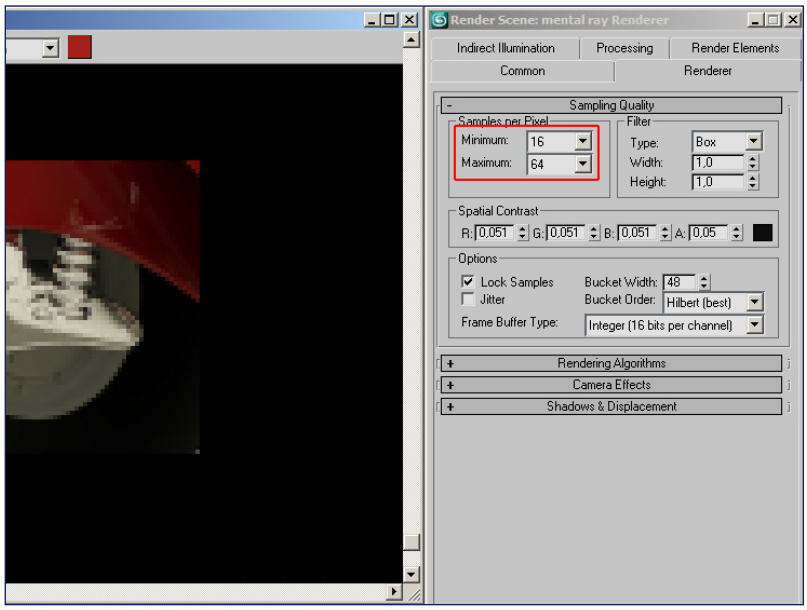
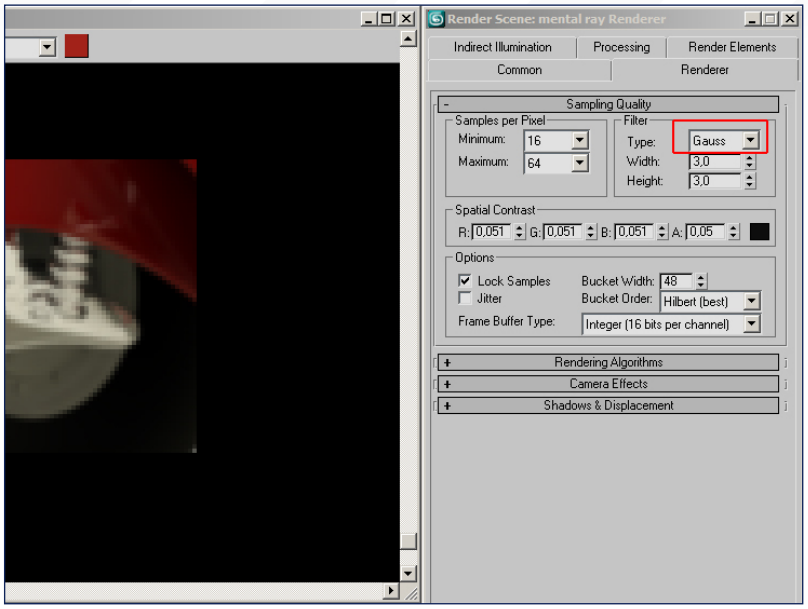


Fig 06

6. Bring the Minimum value down to 16 and render again. It takes an acceptable amount of time and the quality is not too different from the previous settings, so we can therefore use this configuration which represents a good quality and a compromise in time.

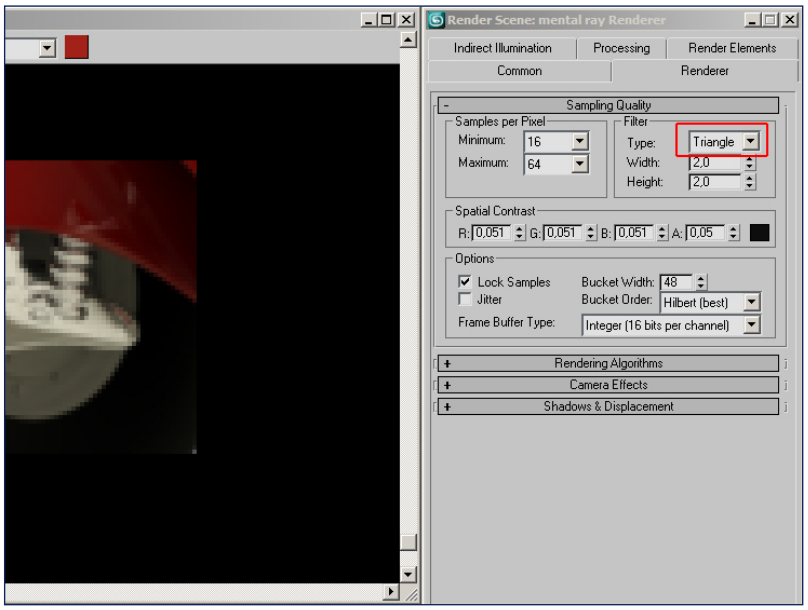
7. Now let's play with the Filtering types a little. Change the Filtering to Gauss and then render again (Fig07).

Fig 07



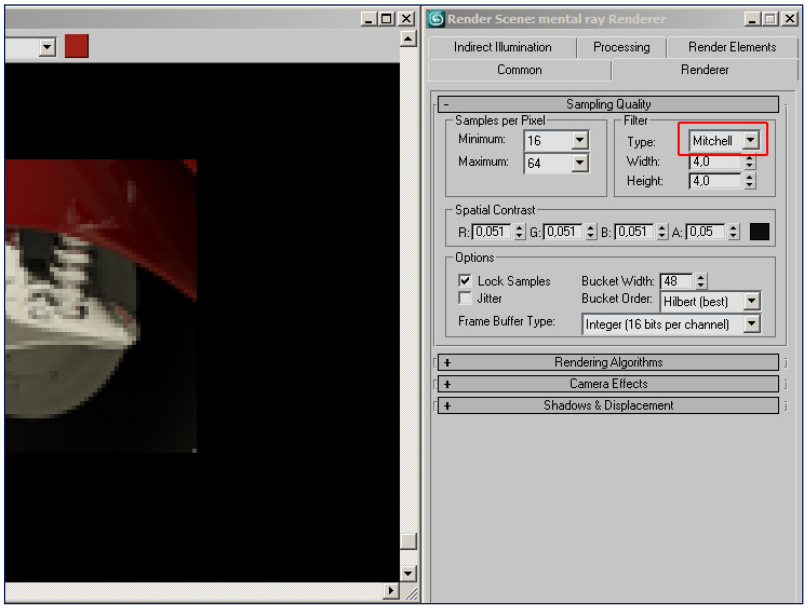
8. Change the Filtering type to Triangle. Render again (Fig08).

Fig 08



9. Now try the Mitchel Filtering and render again (Fig09).

Fig 09



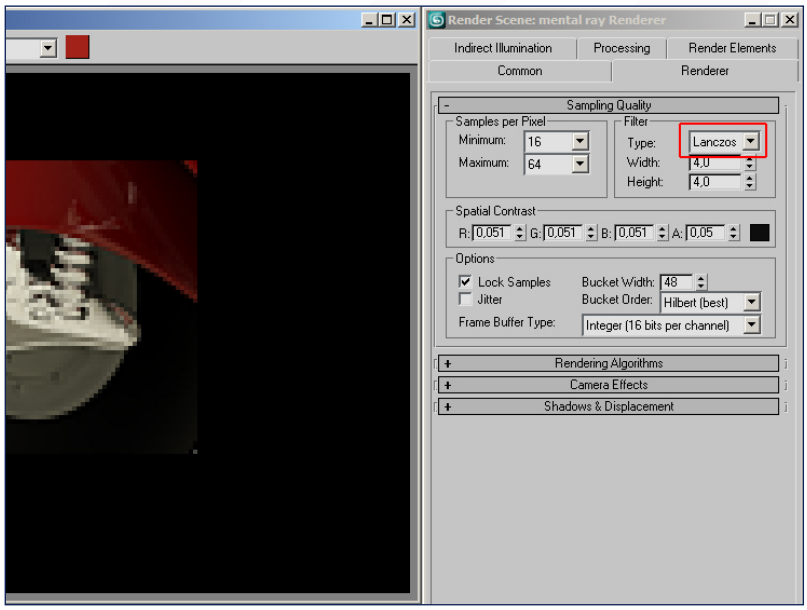


Fig 10

10. Finally, use the Lanczos Filtering and render the scene (Fig10).

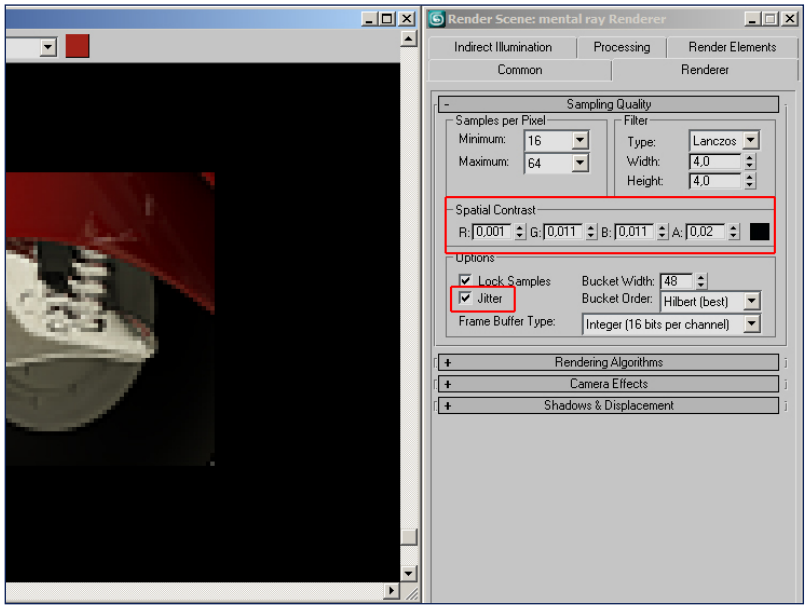


Fig 11

11. Set the Spatial Contrast to a very low value, and enable the Jitter option. Render again (Fig11). Now we have a very sharp, good quality image with a not-too-long render time.



Fig 12

12. We can now render the whole scene with the new settings (Fig12).

13. Now let's re-organise our scene to prepare it for compositing and post-production work in Photoshop. First of all, let's hide the lights and the camera. We can do this in different ways, but the fastest way is to go into the Display tab and check the Lights and Cameras options to hide them (Fig12).

14. Select all the vehicle components and create a new Selection Set by entering a name into the text box shown in Fig14. This will allow us to rapidly select the vehicle whenever we need it.

15. Open the Object Properties panel (Edit > Properties) and un-check the Visible to Camera option. This will allow us to render the environment only, maintaining all of the shadows and the GI and FG calculations (Fig15).

Fig 13

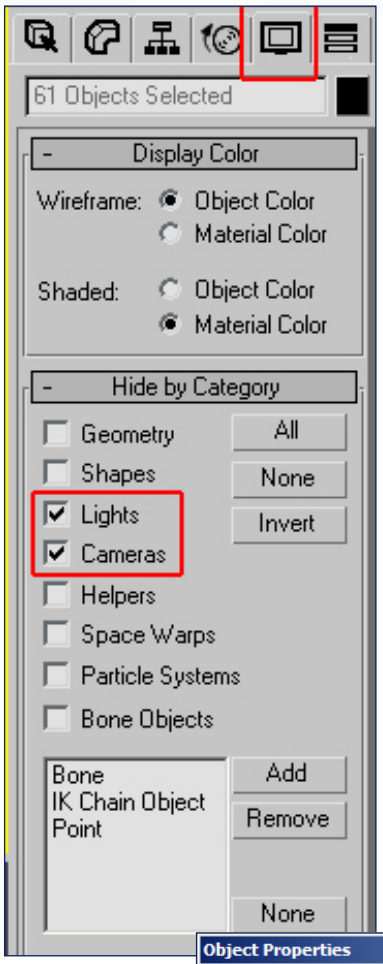


Fig 15

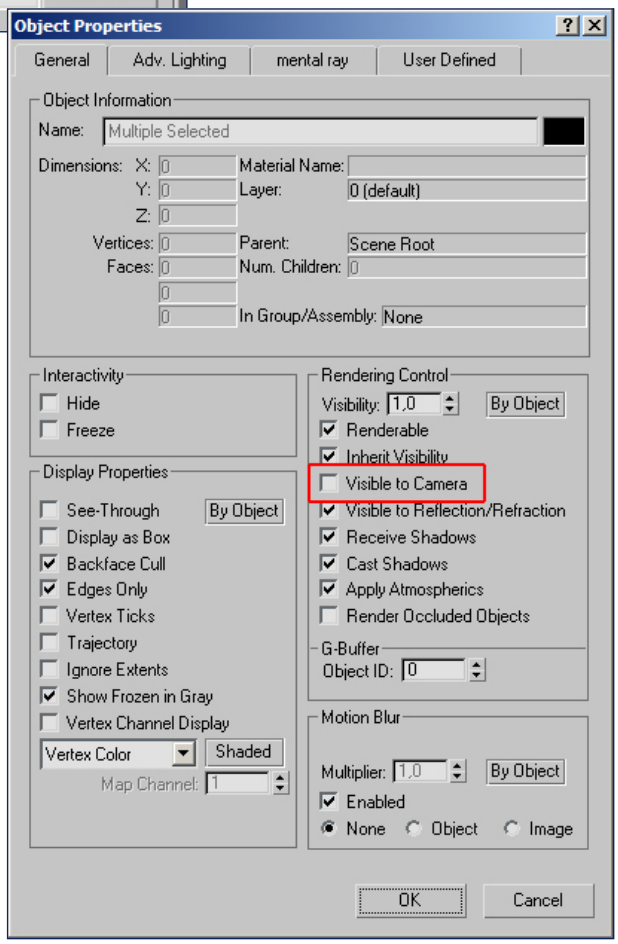


Fig 14

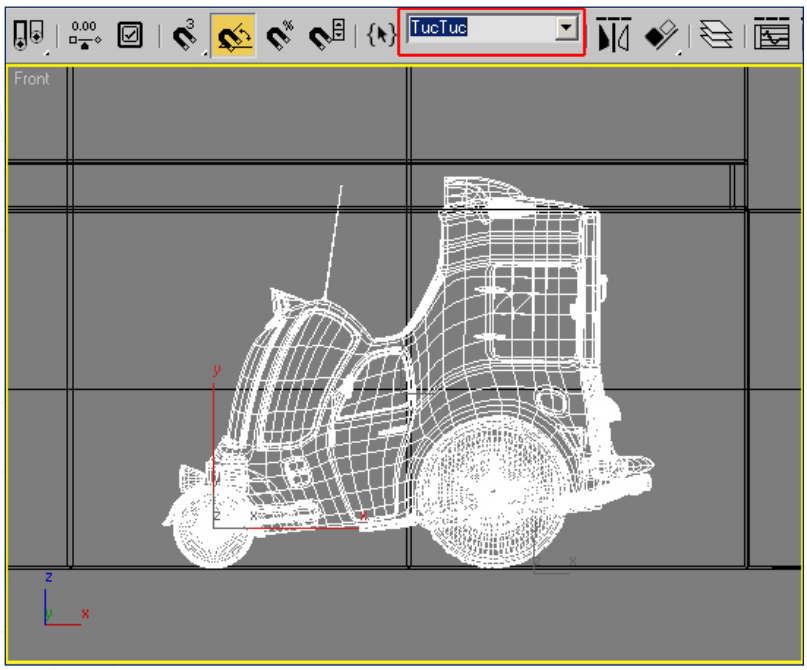




Fig 16

16. Render the scene and save the picture in any format you like (Fig16).

17. Select the vehicle again (using the Selection Set we just created) and enable the Visible to Camera option. Now select all the Environment meshes and disable its Visible to Camera option in the Object Properties panel (Fig17).

18. Render the scene again, and you'll only get the vehicle with all of its reflections, shadows and GI/FG solutions (Fig18). Save the picture in TGA 32 Bit format to maintain the alpha channel.

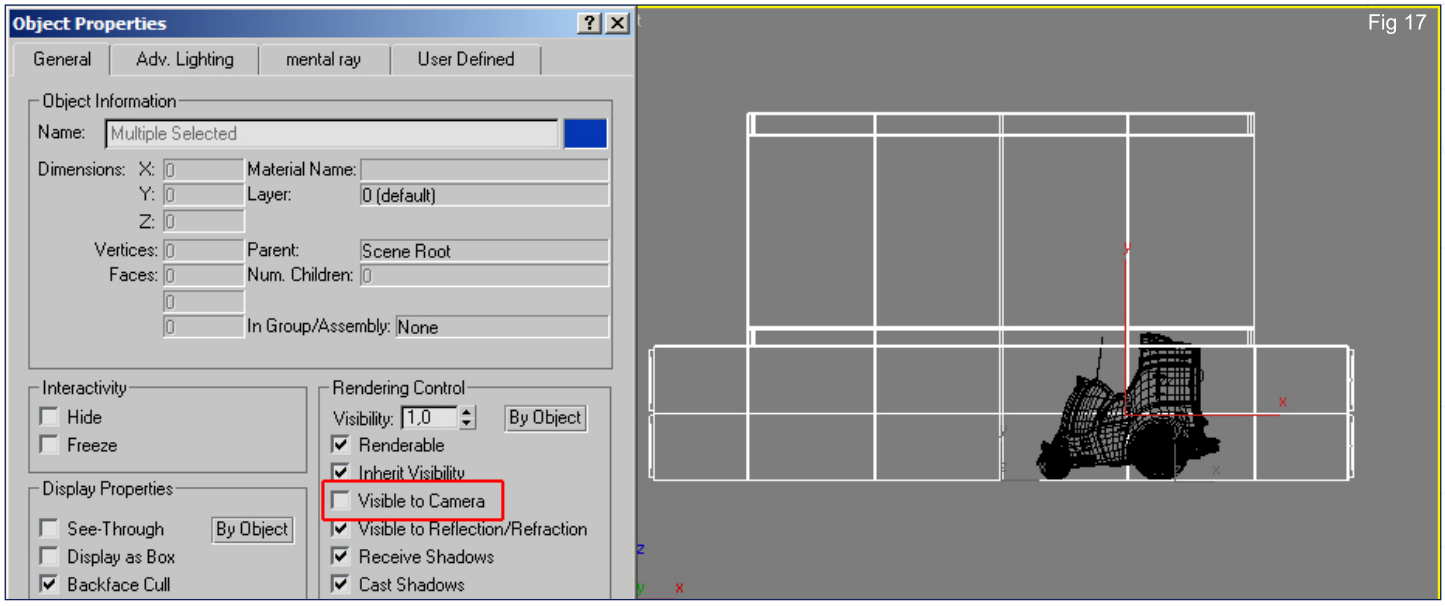


Fig 17

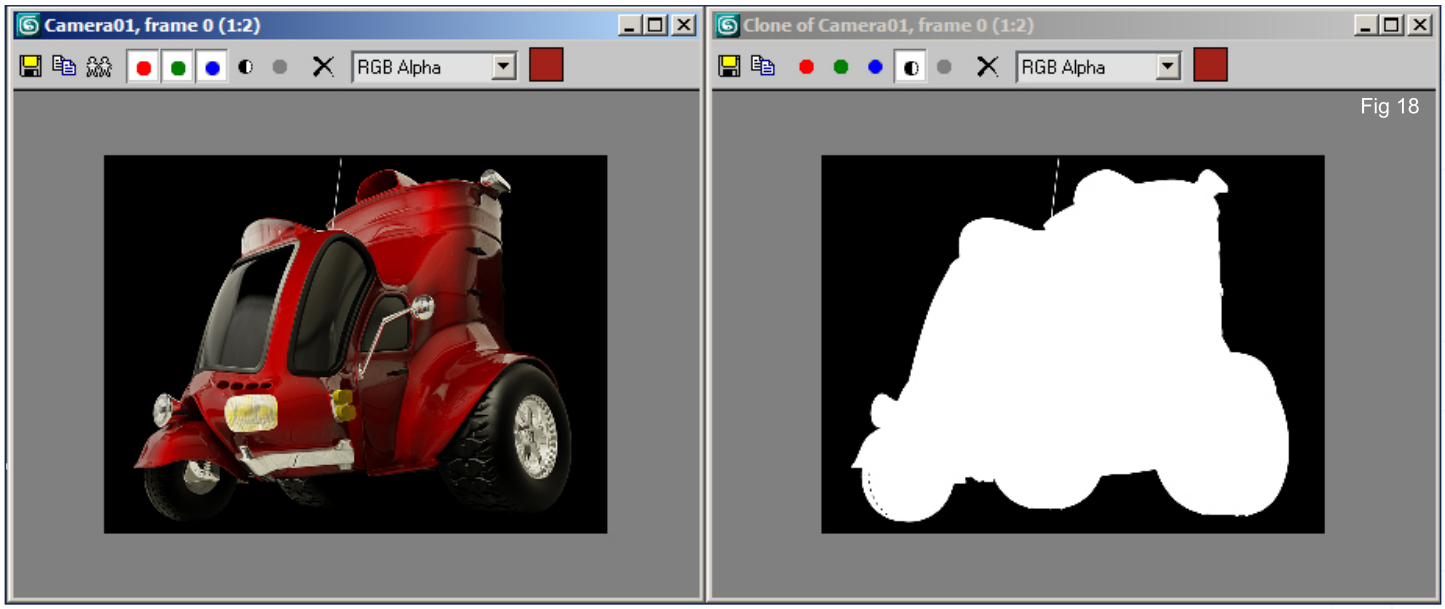
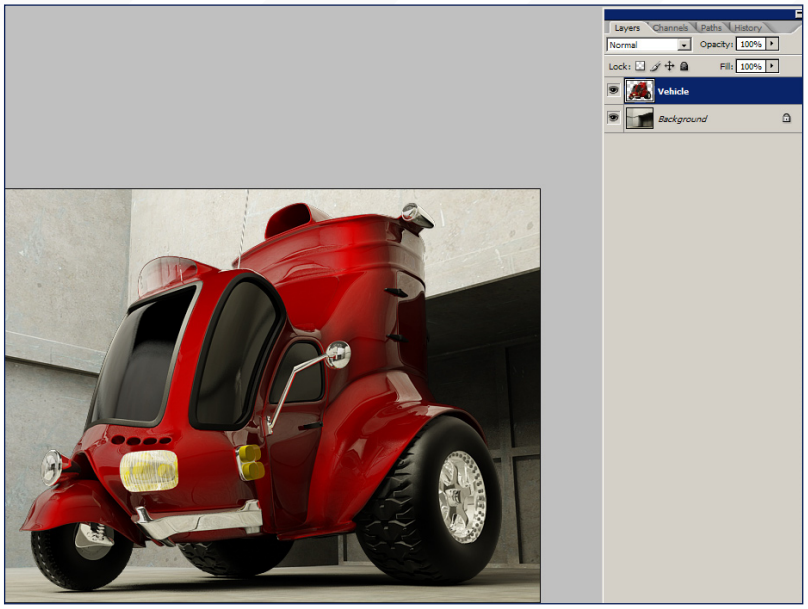


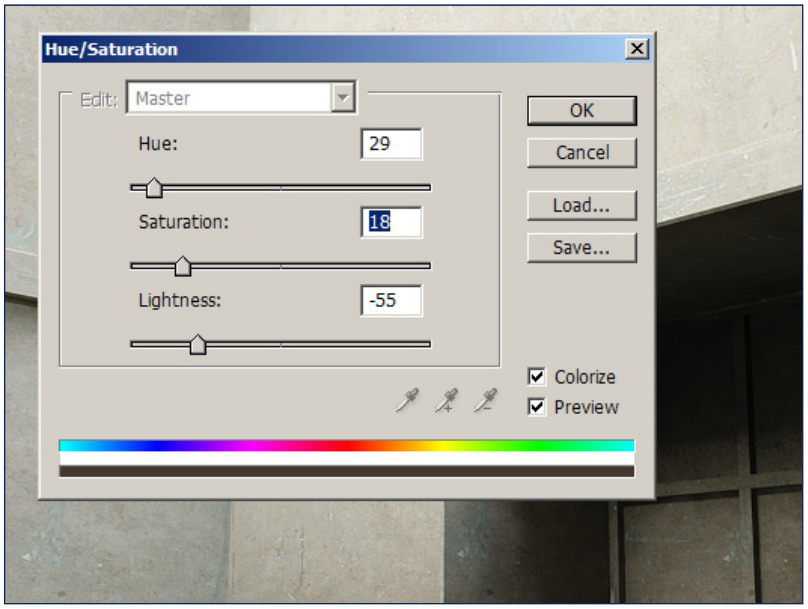
Fig 18

Fig 19



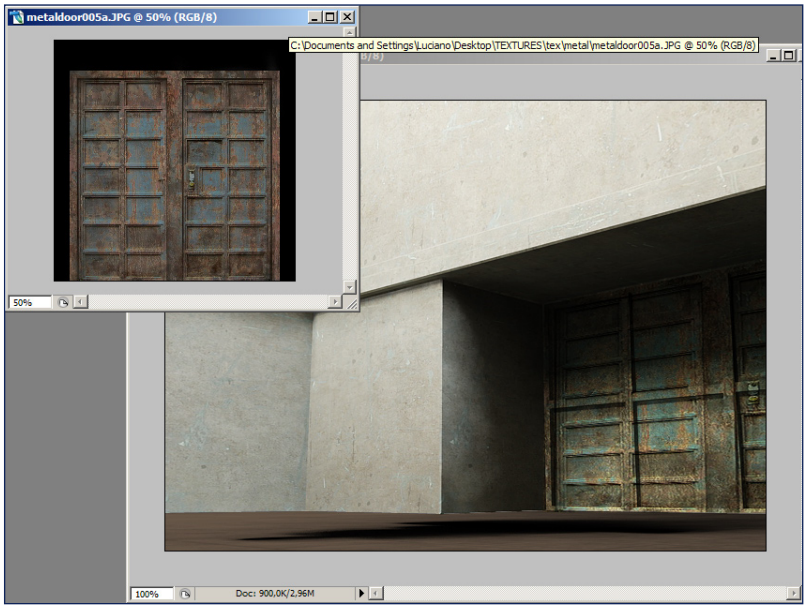
19. Now we can import the pictures in Photoshop. Put the Vehicle layer above the Background (Fig19). We now have complete control over the two separate layers; we can manipulate the look of every single aspect of the render (light, shadows, colour, exposure, and so on) and can also add some new elements.

Fig 20



20. For example, we can change the brightness of the ground, since it's too similar to the rest of the environment. Select the floor with the Polygonal selection tool in Photoshop, and then change its colour and brightness as you feel necessary (Fig20).

Fig 21



21. Using a separate texture file, an iron door was added over the original to create more detail (Fig21).

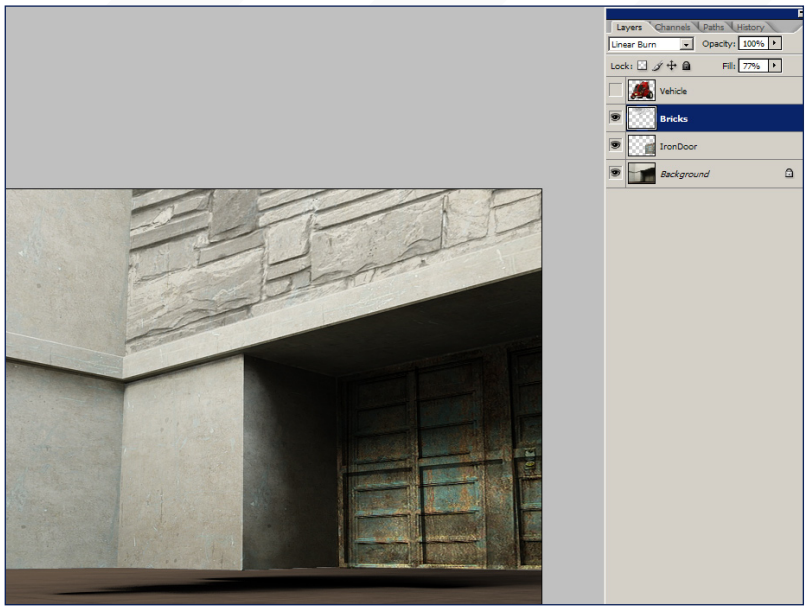


Fig 22

22. A brick layer was also added to the original render (Fig22).

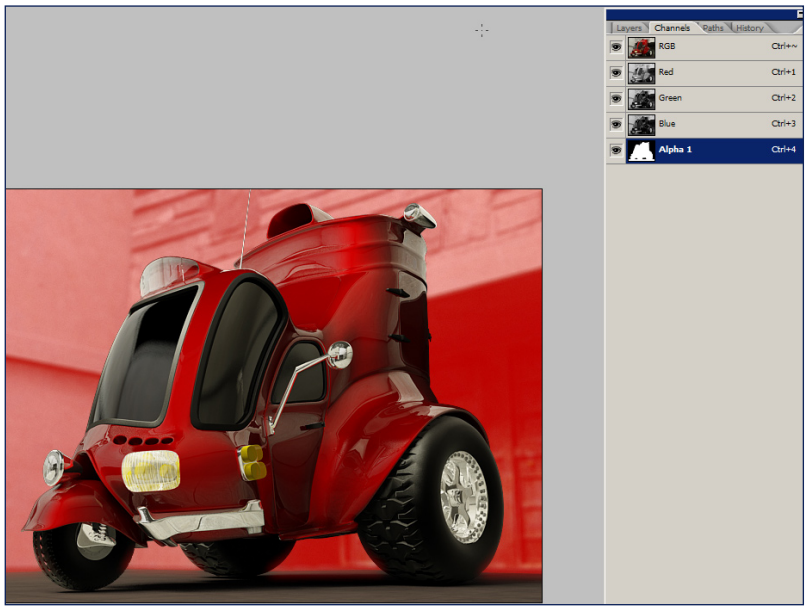


Fig 23

23. Using the alpha channel, a Lens Blur effect was used to fake the Depth of Field effect (we talked about this in the previous part of the tutorial) (Fig23).



Fig 24

24. Once you're done, flatten all the layers to have a single layer image. Now we can adjust the brightness and contrast, and the exposure, of the picture (Fig24).

25. Use Fig25 as a reference to improve the exposure of the picture.

26. If you want to, you can also add a Photo Filter effect to create a more interesting image (Fig26).

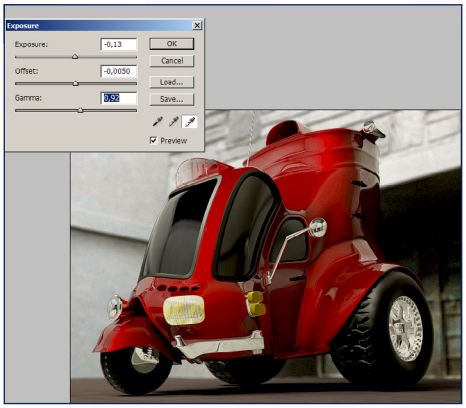


Fig 25

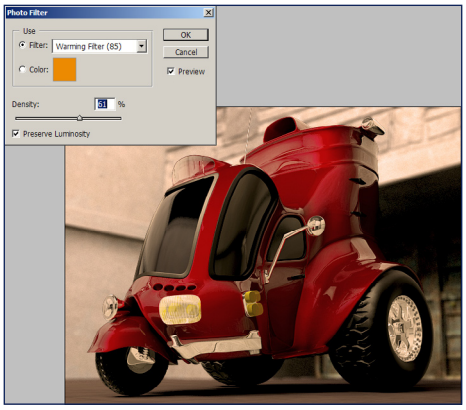


Fig 26

TUC-TUC

Originally designed and modelled by:

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Or contact them:

iuri@pmstudios.it





Tuc-Tuc

CINEMA 4D

Is our new precise step-by-step tutorial which will begin with a vehicle model and cover the principals of applying shaders, placing it in a simple scene, and following with a two-part section on both lighting and rendering. The tutorial will begin by creating and applying materials for the various parts of the car, such as glass, chrome and tyres, as well as texturing some simple geometry that will make up a scene. It will then move onto lighting where the focus will be on setting up a lighting rig and the various parameters connected to this. Finally the series will culminate with a section on rendering, where the aim will be to finish with a polished image. The schedule is as follows:

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Issue 022 June 2007
Rendering Part 1

Issue 022 June 2007
Rendering Part 2

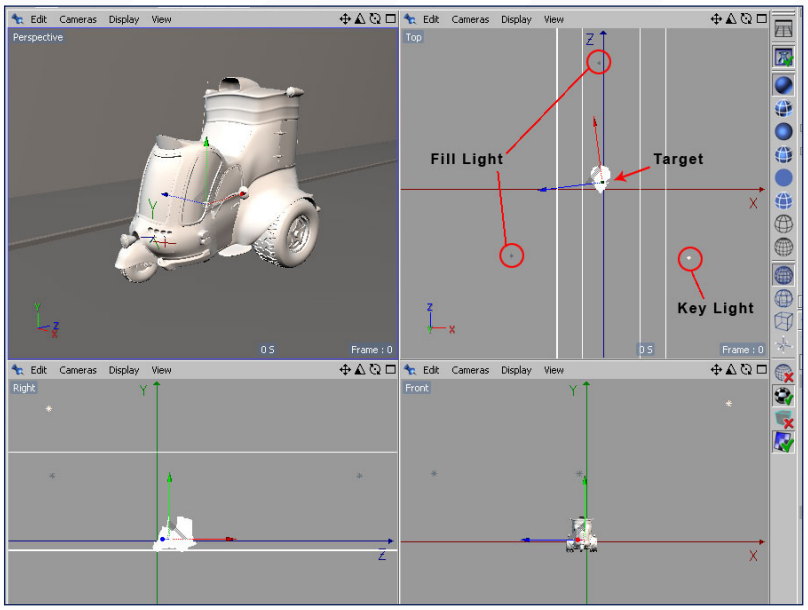
Enjoy ...

Rendering Part 2 Part 6

In the last part of this tutorial we will cover Camera Settings, Depth of Field, and Ambient Occlusion (AO) - a fast alternative to GI.

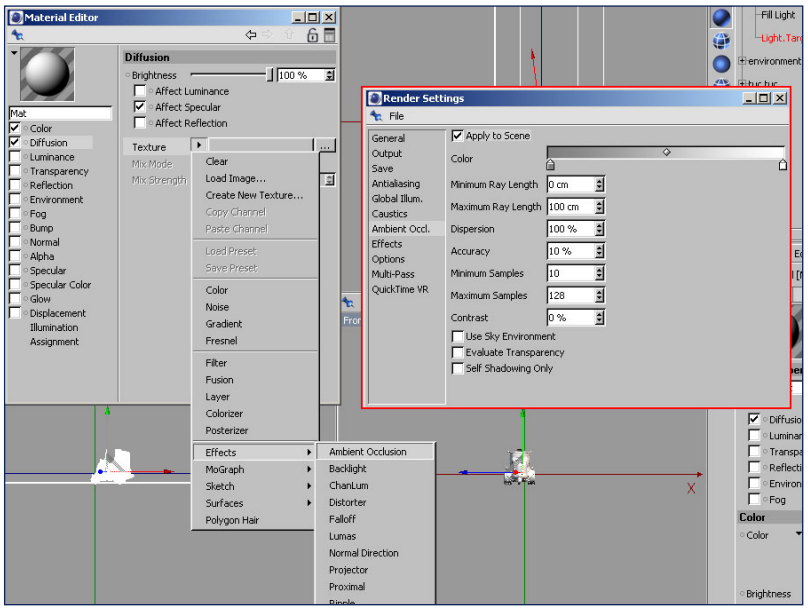
1. As I have just said, Ambient Occlusion is an alternative to Global Illumination, which determines how much exposure each area of the model, or the scene, will receive. Let's say, for example, that your scene contains no floor and is surrounded on all sides by a sky. The AO will determine to what extent each visible area sees the sky. Holes, corner areas, and areas between objects placed very close to each other, will see less of the sky and will therefore be darkened in accordance with the AO settings. Basically, the AO works like the GI, but it's faster. Since we are going to use the AO solution, I've turned the GI off and have deleted the lighting rig (also the probe with HDRI). I then created a three-point lighting set-up; 3 Omni lights with a Target, a Key Light (R=255; G=239; B=226) with Shadow Maps, and two Fill lights (R=216; G=239; B=255) which have the Intensity set to 48% and are without shadows (Fig01). I also deleted the shaders so that I could better show the effects of Ambient Occlusion.

Fig 01



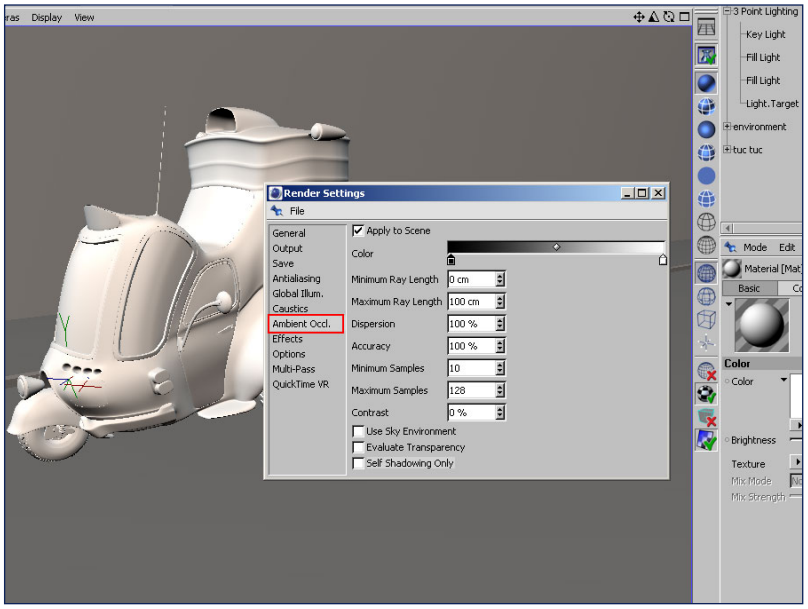
2. Ambient Occlusion can be found in two locations within the application; as a "channel shader" (Material Editor > Texture > Effects > Ambient Occlusion), and as a "global effect" (Render Settings > Ambient Occlusion) (Fig02). Options in both dialogue boxes are identical, except for the Apply to Scene setting. I'm going to use the global method; its advantage is that it doesn't require any editing of individual materials, so it will therefore be very fast to set up.

Fig 02



3. Let's start by opening the Render Settings dialogue box, and then turning on the Apply to Scene setting. You can see the parameters in Fig03. **Color** defines the colour gradient that

Fig 03



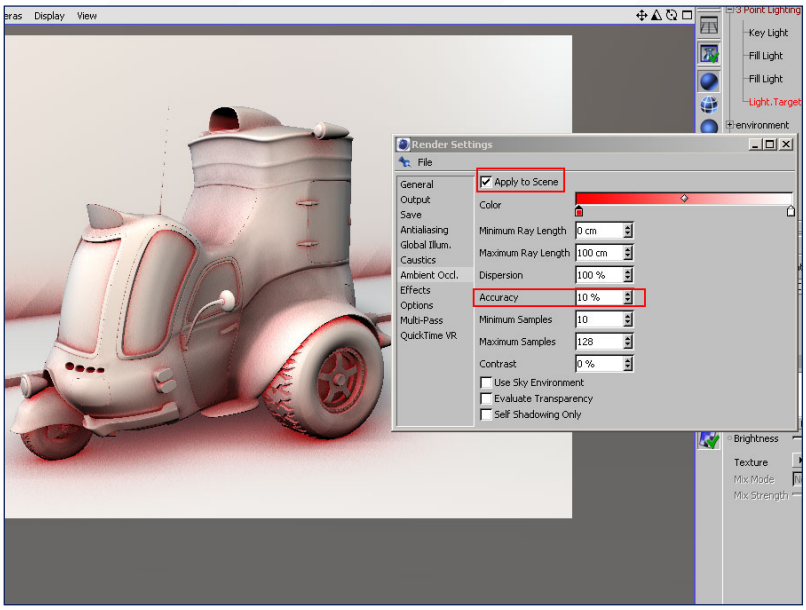


Fig 04

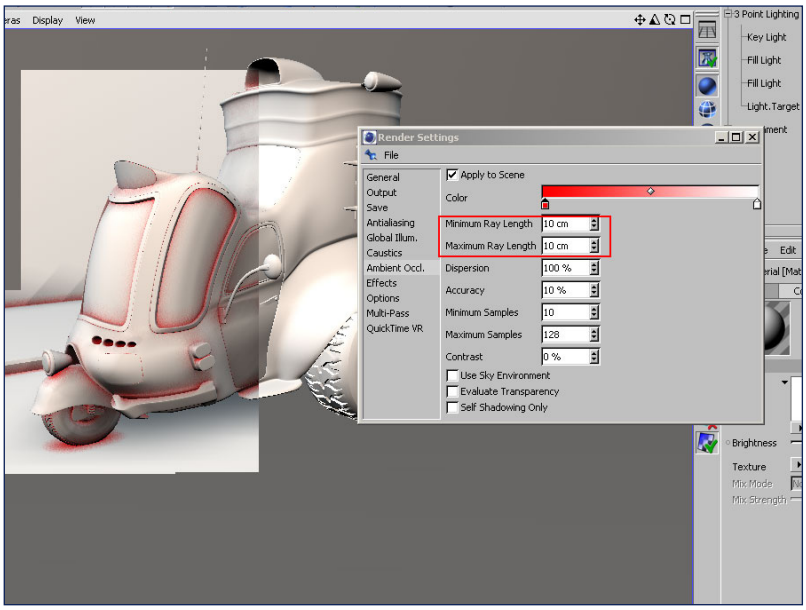


Fig 05

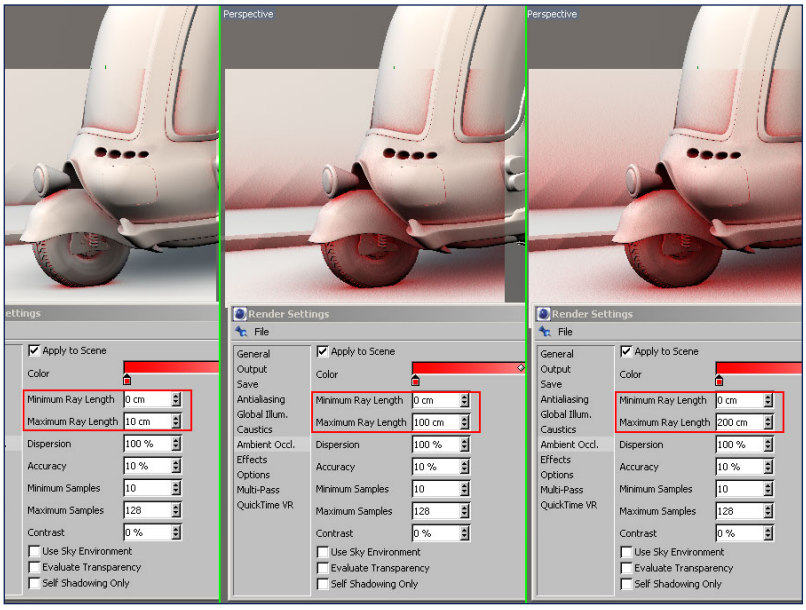


Fig 06

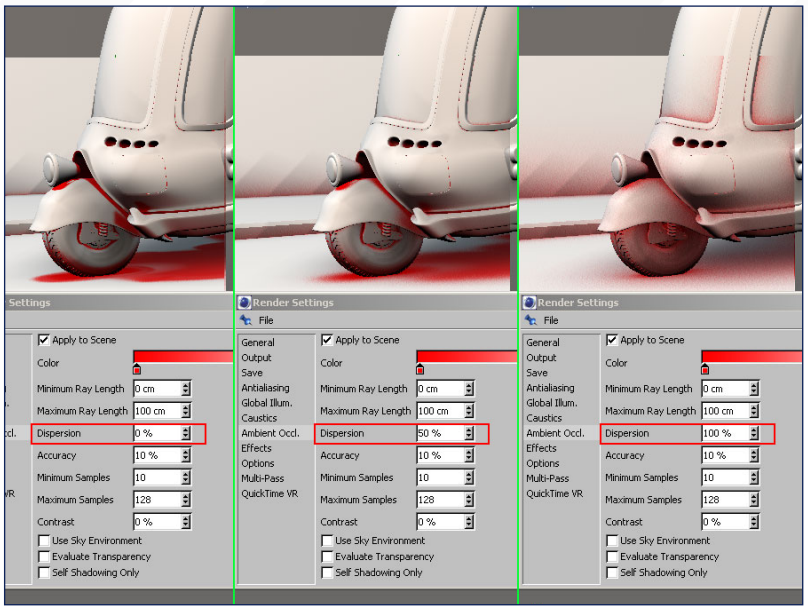
AO assigns, dependent on the exposure. In the default settings it is a black to white gradient, but you may also define other colours. The left end of the gradient represents the area with minimal exposure, whilst the right end represents the area with maximum exposure. **Minimum Ray Length** determines how the gradient defined in Color will be rendered between exposed and non-exposed areas. **Maximum Ray Length** defines which distance the surfaces see each other. **Dispersion** determines to what extent the Samples will be taken into account. **Accuracy** defines the quality of AO. **Minimum Samples** define the number of samples that should be used in less critical areas, whilst the **Maximum Samples** setting defines the number of samples that should be used in critical areas. **Contrast** adjusts the AO effect's contrast. The **Use Sky Environment** setting is correlated to the local method when you use the AO as a shader. **Evaluate Transparency** allows you to analyse the transparency on the basis of the transparency or alpha material channels. **Self Shadowing Only** separates the objects which will not see each other but will only see themselves.

4. Before starting to modify the parameters of AO, I suggest you disable the Antialiasing, or at least use the Geometry setting. In the AO dialogue box, turn the Apply to Scene setting on, and decrease the Accuracy to 10% so that your renders will be faster. We will increase the Accuracy when we find our AO solution. Remember that Accuracy, Minimum and Maximum Samples are responsible for AO quality. Low quality is accompanied by grain result. I changed the black colour of the gradient to red just to show you where the AO affects, but you must use a black or a grey colour - I tend to use grey myself. Now you can see from Fig04 that the red colour represents the areas with minimal exposure.

5. The Minimum Ray Length has a value of 0 as its default setting. This parameter is usually left at its default setting. If you give it a value closer, or equal to, the Maximum Ray Length value,

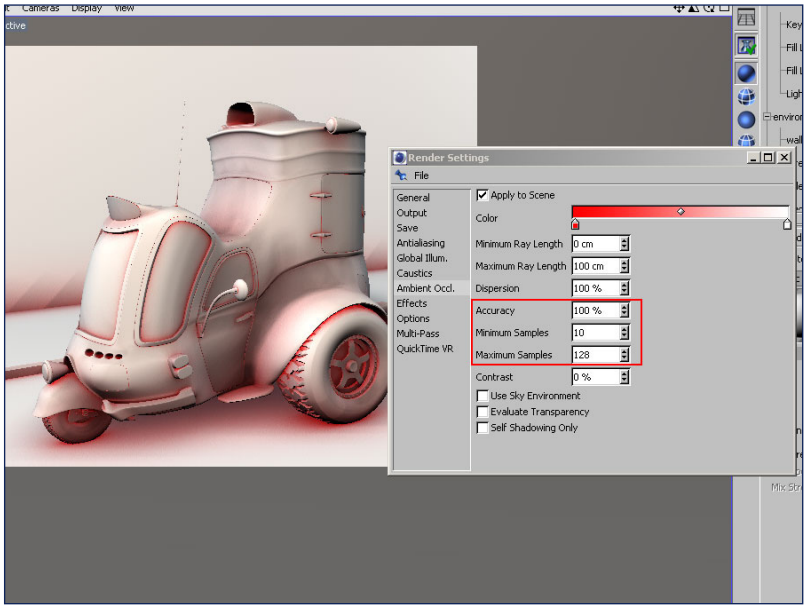
you will notice that the gradient will be pushed towards the edges. For example, in Fig05 I gave the same value to the Minimum and Maximum Ray, and you will notice how the AO affects the areas of those edges which are defined by the Maximum Ray Length.

Fig 07



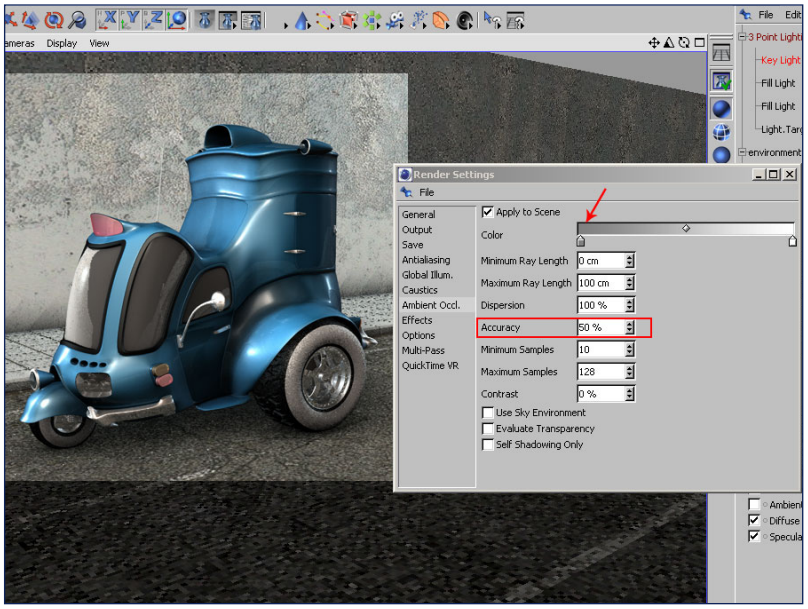
6. As I mentioned in paragraph 3, the Maximum Ray Length defines the distance that the surfaces see each other. If you use a low value, the wall will not see the sidewalk, the sidewalk will not see the vehicle, and so on. The render will therefore, as a result, be brighter. If you use a high value, a much larger distance will be included within which objects will be able to see each other. The image will be more softly rendered, and the dark will be more homogeneous, but it will cause longer render times. In Fig06 I have shown you the different values of the Maximum Ray, from left to right, as I increased the Maximum Ray Length values.

Fig 08



7. During the AO calculations, several rays (Samples) will be emitted for each point within a virtual hemisphere in the scene. A value of 0% of Dispersion means that only the hemisphere's zenith (vertically over the object) is taken into account. A value of 100% Dispersion means that all of the sphere's samples are taken into account. In Fig07 (from left to right) I have shown the values of Dispersion for 0%, 50% and 100%.

Fig 09



8. Accuracy, Minimum and Maximum Samples are the parameters that define the AO quality. Normally I use the default setting for both samples. You should now increase the Accuracy to 100%, as shown in Fig08.

9. Let's try the AO solution with the complete scene (with all materials and shaders) (Fig09). For this render I used the Antialiasing Geometry and decreased the Accuracy of the AO to 50%. The render took around 6 minutes.

10. Now we are going to insert a Camera inside the scene. From Object's menu, select: Scene > Target Camera. In the Object's browser two

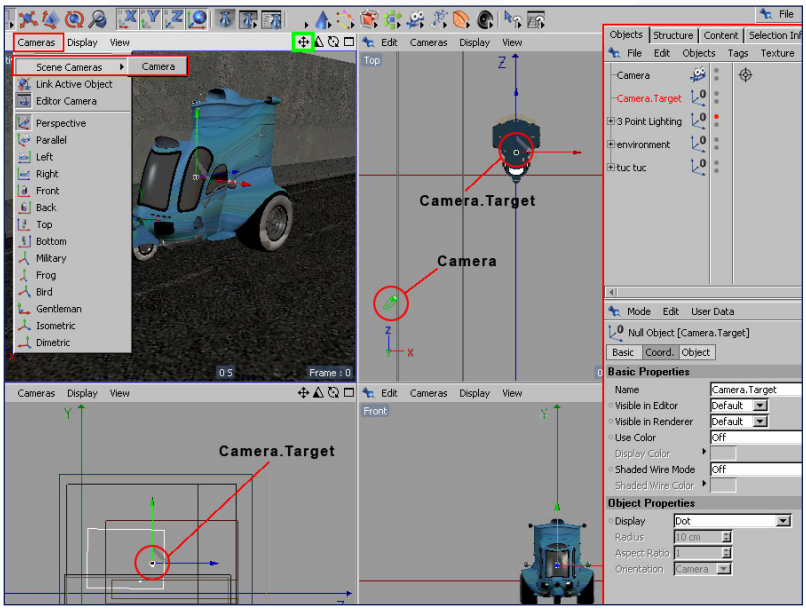


Fig 10

new objects will appear: Camera and Camera. Target. Select the Camera.Target object and position it at the centre of the Tuc-Tuc vehicle. Go into the Cameras' menu, from the 3D viewport, and select: Scene Cameras > Camera. You are now in the view of the camera (Fig10). To move and scale the view of the camera use the 3D viewport controls (highlighted in green).

11. In the Attribute Manager Settings you will find the properties of the Camera. The default Projection is Perspective, but you may also choose other types of projections, as seen in Fig11. The Focal Length is a measure of how strongly it converges, or diverges, light. You can choose several focal lengths, and these will have different lens types. For example, with a focal length of 20 mm you will have a fish-eye type lens; with a focal length of 35 mm you have a wide-angle type lens, and so on. The shorter the focal length, the greater the area will be that is captured by the angle. The Aperture Width defines the size of the opening in a camera that allows light to pass through the lens onto the film. The ratio of the Aperture Width to the Focal Length determines how much of the scene can be viewed through the camera. The Field of View is a measurement for the camera's angle of view. The greater the Focal Length, the smaller the Field of View. The Zoom, as you will see from Fig11, is not available if the projection is in Perspective, however it does allow you to zoom in on the view.

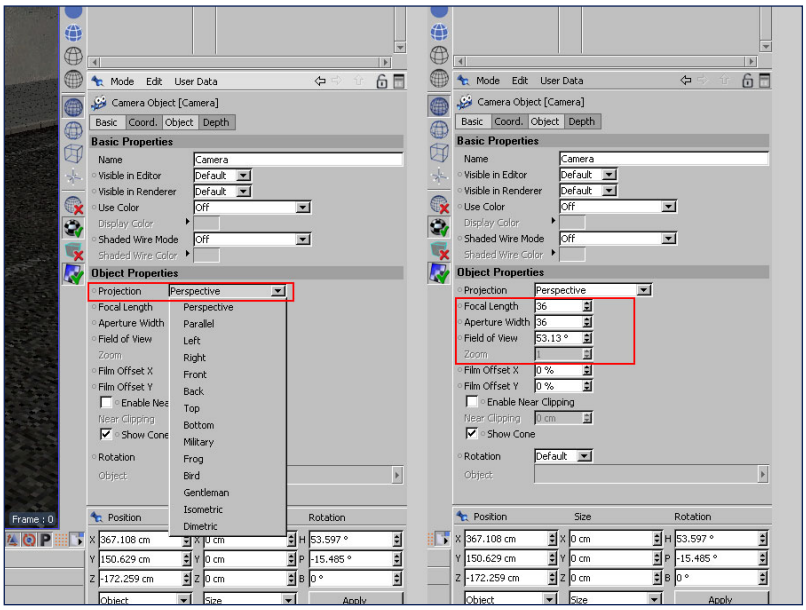


Fig 11

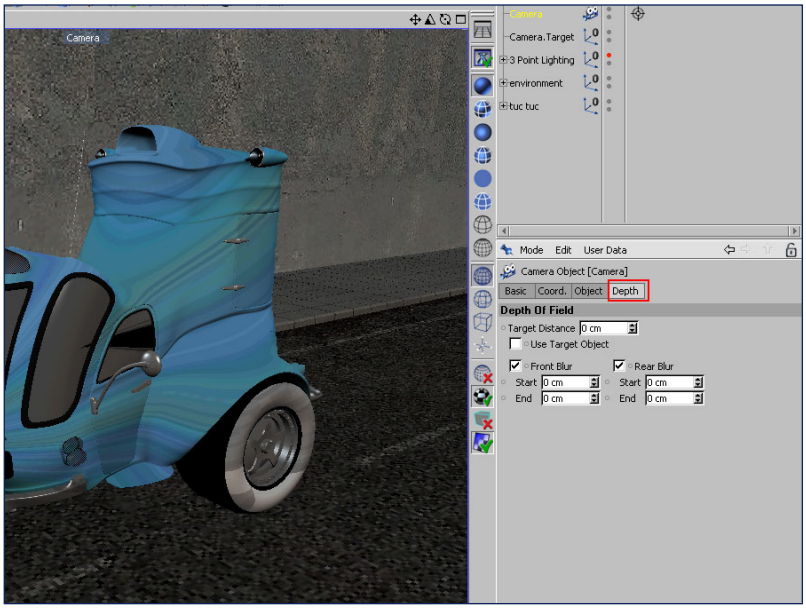
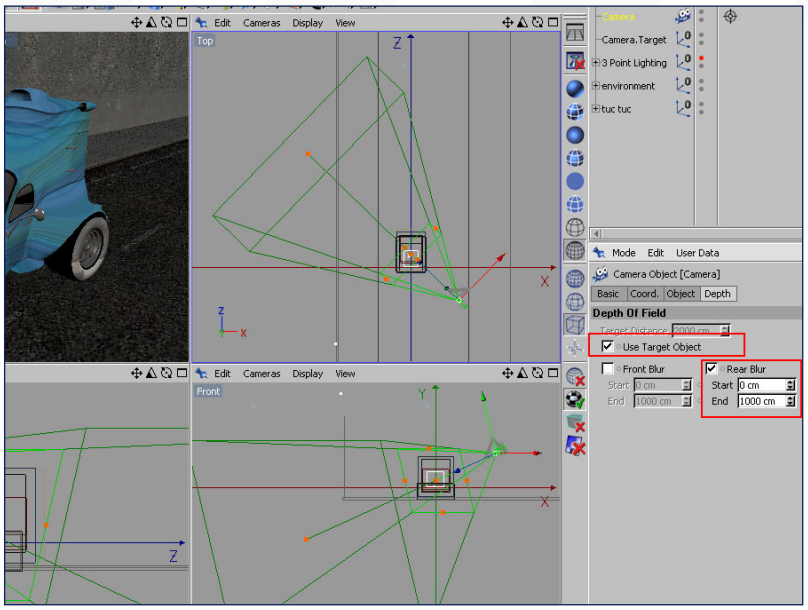


Fig 12

12. In the Attribute Manager Settings of the Camera you have the possibility to set up the Depth of Field (DoF). Depth of Field is a post effect that you select in the Render Settings on the Effects page. We will see this later on, so now take a look at the settings of the camera. The DoF allows you to specify which part of the image will be blurred (Fig12). The **Target Distance** is the distance from the camera to the focal plane. **Use Target Object** allows you to choose an object to be the focal point - this object will be perfectly sharp. **Front Blur** and **Rear Blur** define whether the image is blurred

on the front or the rear. For example, if you want to blur behind the focus only then set the Target Distance and enable Rear Blur.

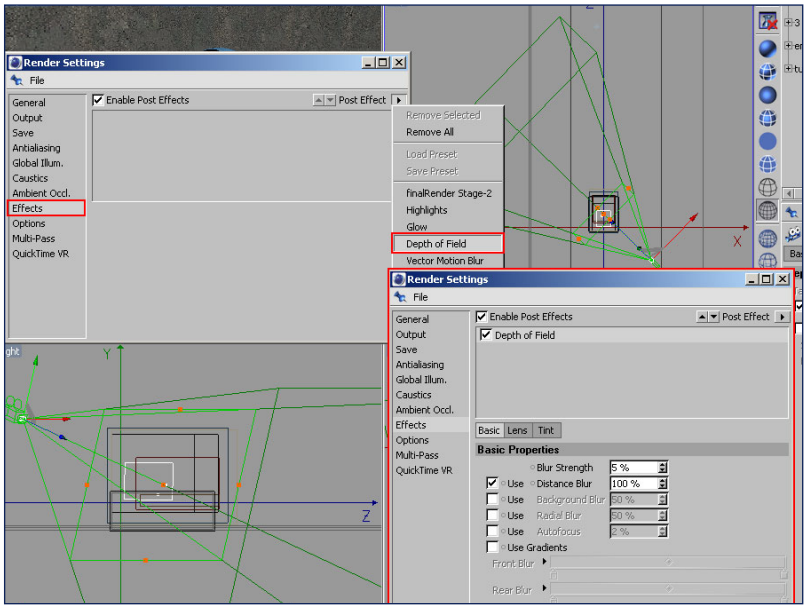
Fig 13



13. Let's say we want to blur the background of our scene. Since we have a Camera with Target we can enable the Use Target Object setting, which means that everything that is behind the target will be blurred. You will see from Fig13 that the colour of the camera's cone in the top viewport is changed; the dark green defines the area that will be blurred. Now we need to enable the Rear Blur option to define the part of image which will be blurred (Fig13).

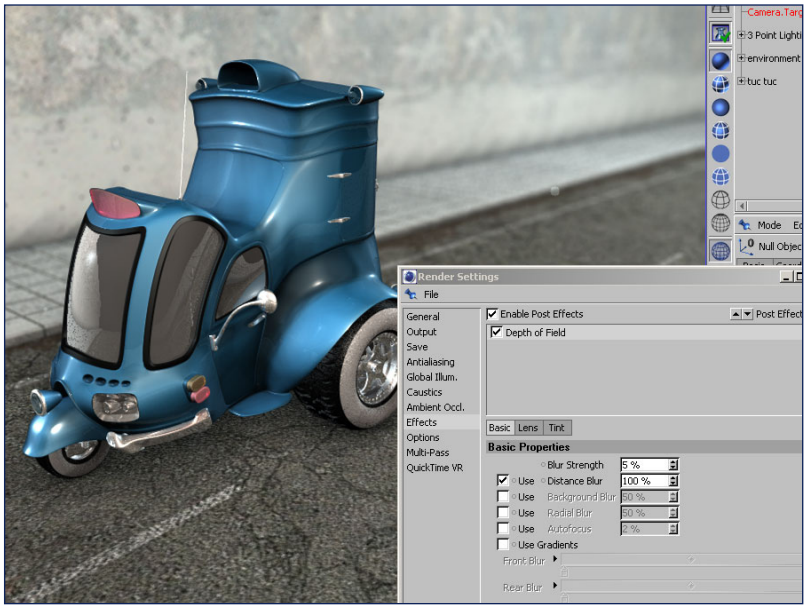
14. Now we have to load the Depth of Field effect in the Render Settings. Open the dialogue box and go into the Effects page. From the Post Effect options you can select the Depth of Field, as seen on the left of Fig14. On the right of the image you will see the parameters of DoF - so let's take a look... The **Blur Strength** defines the strength of blurring. **Distance Blur** refines the strength of blurring; if you set the Blur Strength to 5%, and the Distance Blur to 100%, the strength of the full blur will be 5% of 100%, then 20%. The **Background Blur** is used to control the strength of blur for Cinema 4D's Background object. The **Radial Blur** allows you to get a stronger blur from the centre of the picture outwards. The **Autofocus** setting is used to simulate the autofocus feature of a real camera. The **Use Gradient** setting allows you to control the transition between two states, from sharp to blur.

Fig 14



15. For this scene I chose the setting which can be seen in Fig15. For this render I disabled the AO.

Fig 15



16. For the final render set the Antialiasing to Best and change the Min/Max Level to 1x1 / 2x2 (Antialiasing page), so that by doing so we will decrease the rendering time. Now enable the AO.

This concludes the tutorial.









Tuc-Tuc

Originally designed and modelled by:
Richard Tilbury

Tutorial by:
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Tuc-Tuc

lightwave

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Issue 022 June 2007
Rendering Part 1

Issue 022 June 2007
Rendering Part 2

Enjoy ...

Rendering Part 2

In the last part of this tutorial we are going to have a look at Buffer - a very powerful and complex method which can be used for images, as well as animation. The final image is only partly created in Lightwave because the look and style is created in another 2D, or compositing, software. This way you will have full control over every parameter of the image...

1. When setting up your scene for Buffer export, create your scene in the same way that you would usually create a scene. You shouldn't worry too much about any effects, or things like light and shadow colours, because such things will be taken care of later on. So, load up your scene and go to Image Processing effects (Fig 01).

2. For film compositing you might also want to try the Render Buffer Export image filter where you can choose only one Source at a time to export a certain buffer, like Raw RGB for example. For additional passes, like Shadow, you simply add a new Render Buffer Export filter with different settings. For a beginner however, this might be a little tricky, as you have to compose the layers manually in the end. With the PSD Export this is already done for you so it is much more comfortable, which is why we are using the PSD Export filter in the tutorial (Fig02).

3. With the Image button, you can select a path and name for the image to be saved. My PSD file's name is "passes2.psd". By checking the Layered Composite option, all the basic layers are already created for you. To have a bit more freedom to play around we can also check Final Render, Specular Colour, Reflection, Diffuse Shading, and Shadow (Fig03).

Fig 01

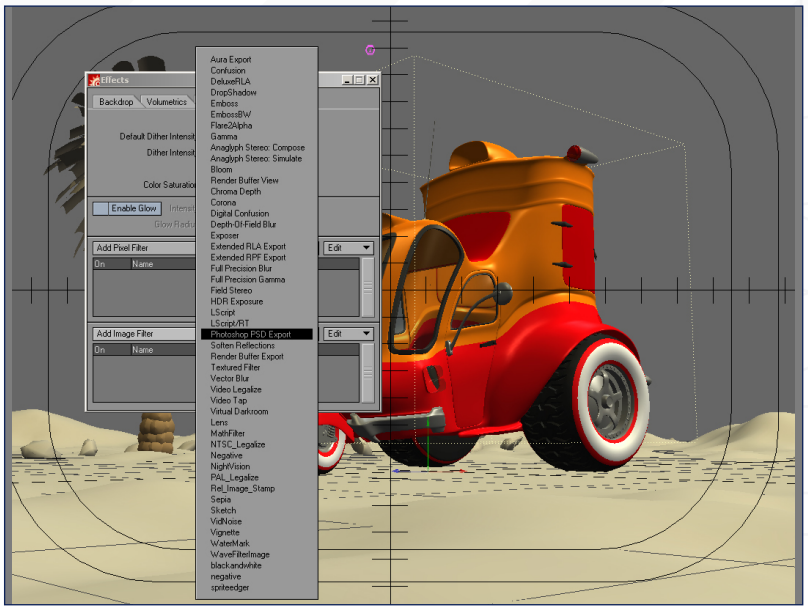


Fig 02

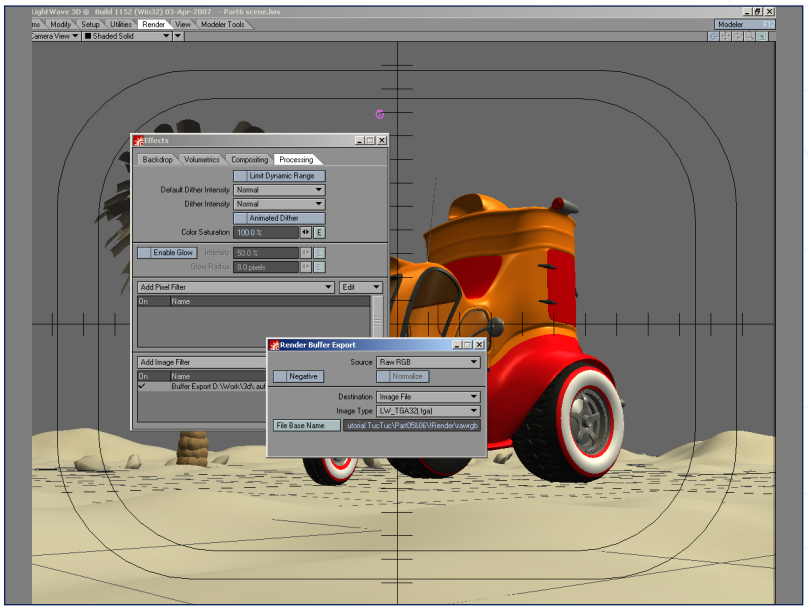
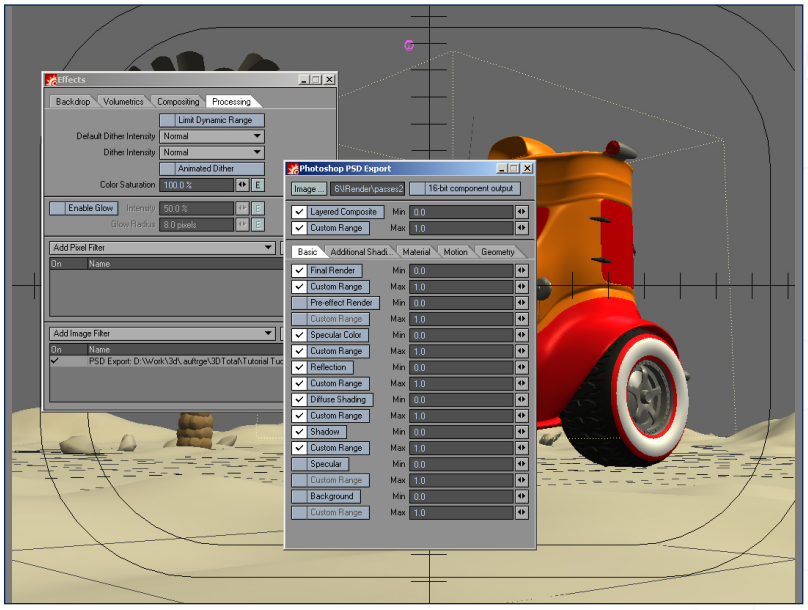


Fig 03



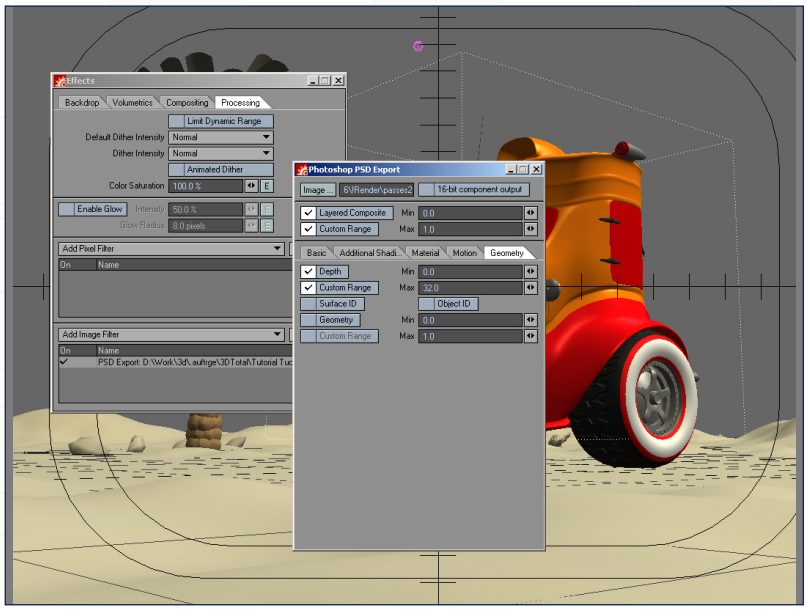


Fig 04

4. The other tabs are not important right now, so just go to the Geometry tab and check the Depth layer export. If you are going to create an animation you might also want to check out the Motion tab, where you can save out motion maps. These maps can be used to add post effects such as motion blur. The usage is similar to the depth map usage that we are going to look at (Fig04).

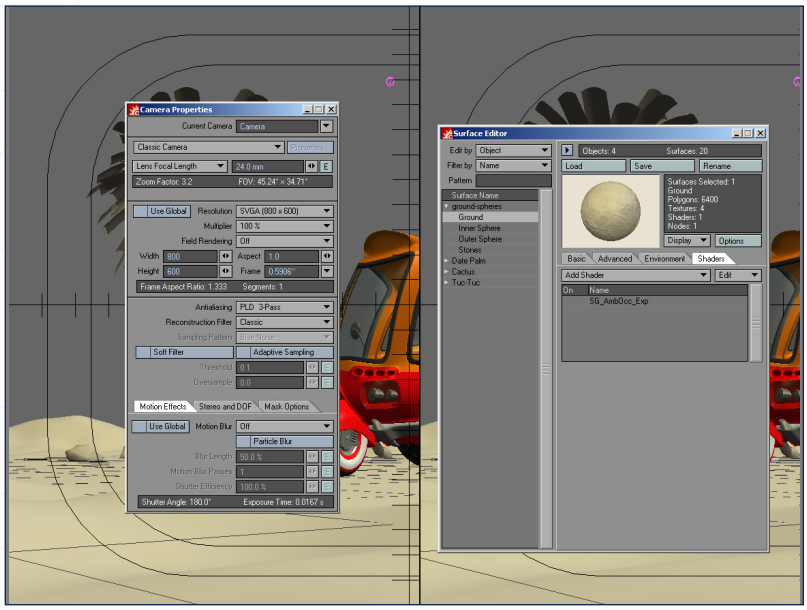


Fig 05

5. Before you hit the render button, go to Camera Properties and disable both DOF and Motion Blur. In Material Editor select the Ground material and disable the SG_AmbOcc_Exp Shader. You are now ready to render (Fig05).

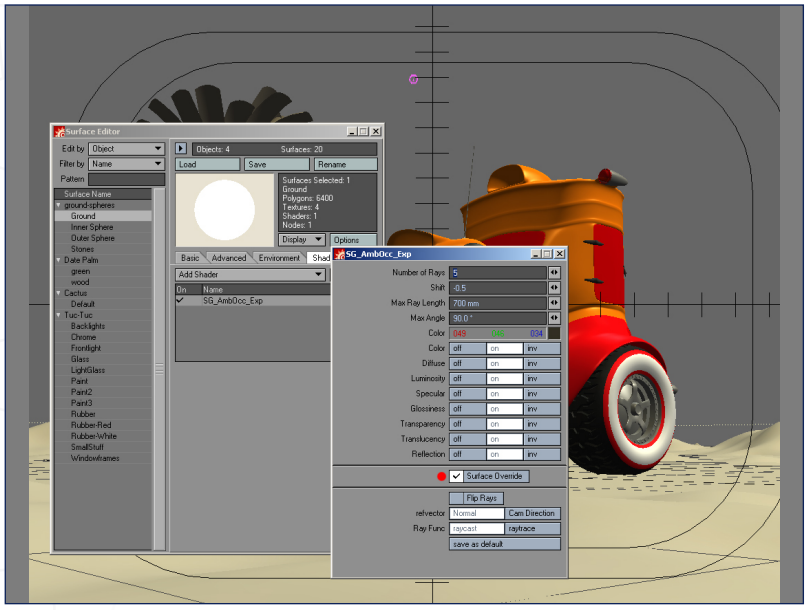


Fig 06

6. We now need another render pass for the Ambient Occlusion, so the first thing to do is to disable the PSD Export entry in Image Processing. Then go to Material Editor, and enable the SG_AmbOcc_Exp Shader again. Double-click on it for the properties. Check Surface Override, so that the surface appears in full white. Copy this shader to all of the materials you have in the scene. Now render out the Ambient Occlusion pass. Save the file with the name “ao.tga”, for example (Fig06).

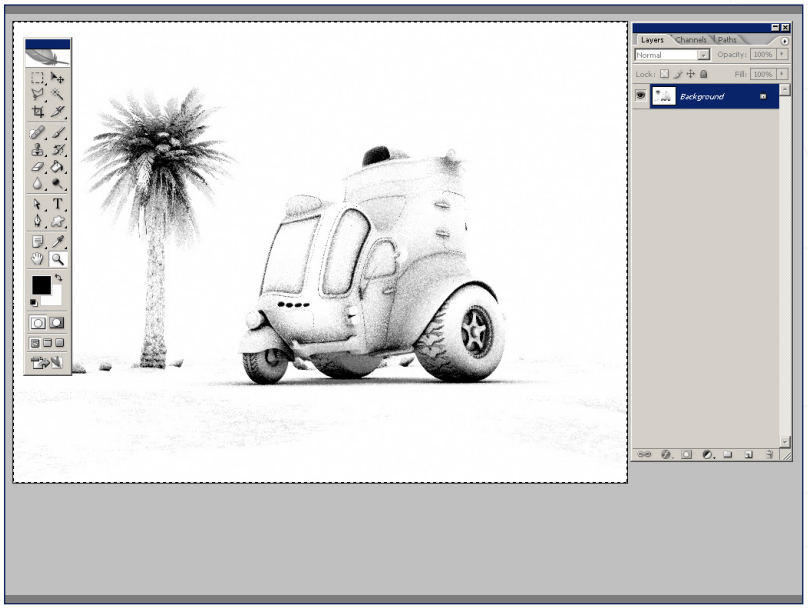
7. Take a look at the 2 files that we have now generated. Both have an additional 4 digits in the filename, which means that you can render out full animation sequences. The next task is done using an image editing software, for example Photoshop. So, load up the file generated by the PSD Export, which for me is “passes20000.psd” (Fig07).

Fig 07



8. You can now delete the layers “L6:Effect(-)” and “L5:Effect(+)”, as well as “L0:Background”. In our scene we don’t have any effects, and just a black background, so we are now going to add another layer. Open the “ao.tga” file with the Ambient Occlusion pass. Select all and then copy (Fig08).

Fig 08



9. Paste the copied “ao.tga” as a new layer. As your Blend Mode simply choose Multiply. The intensity of this effect is controlled via Opacity. For our Tuc-Tuc scene 50% is a good value (Fig09).

Fig 09





Fig 10

10. As we have used rather low quality settings for the Ambient Occlusion, we are now going to smooth out the noise. Go to Filters > Blur > Gaussian Blur. A radius of 1 pixel should be enough to keep some detail and get rid of the fine noise (Fig10).

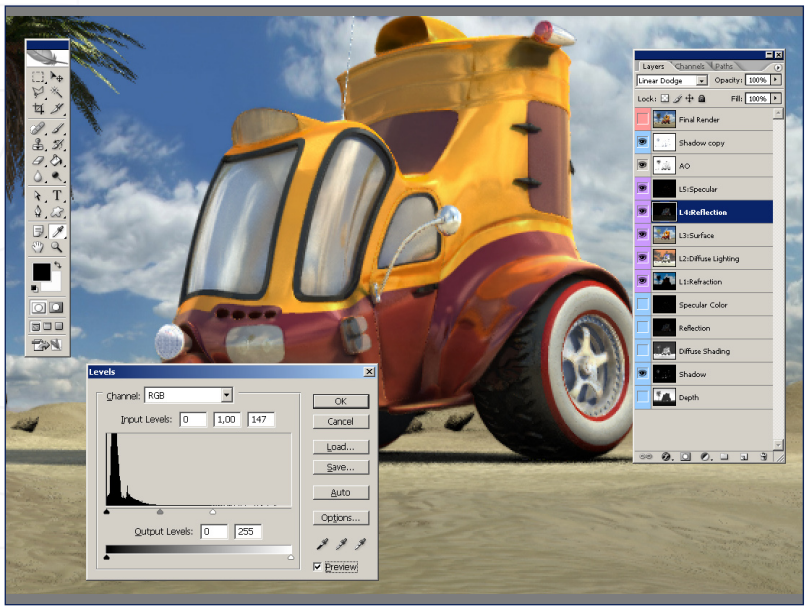


Fig 11

11. Now, what do we do with those extra layers we've generated? You can use them to change the effect you have in the scene. For example, take the shadow layer and make it visible and change the opacity to 70%. Now you have almost eliminated the shadow in the scene. Now you can copy the shadow layer and bring it to the top. If you invert it and change the Blend Mode to Multiply, you will now have the shadow from this layer and you can change it any way you like. For example, you can use Hue/Saturation and colourise it to a blueish colour (Fig11).



Fig 12

12. You can also change the already visible layers, of course. For example, to make the reflections stronger, select the layer "L4: Reflection" and go to Image > Adjustments > Levels. Use the slider, as seen in Fig12, to make the reflections slightly stronger. You can also duplicate the reflections layer and adjust the opacity for even stronger effects (Fig12).

13. This way you can also simulate Lightwave's Bloom filter. Copy the Specular Colour layer and change the visibility to Screen. Now use Gaussian Blur, with a pixel radius of 5. If you then use Auto Levels on this layer, you will have a nice Bloom effect. You can also use the eraser to remove some of the effect (Fig13).

Fig 13



14. As you can see, you can do some quite interesting stuff with the PSD Export. But perhaps the best thing besides full control is the DOF. I am now going to explain how this is done... Select the Depth layer and copy it to the clipboard. Go to Channels and select the empty alpha map. Now paste the Depth Map (Fig14).

Fig 14



15. Click on the RGB channel again to see the image. Merge all of the layers together so that you have only one layer which you want the DOF effect on. I am going to work on the unchanged Final Render layer (Fig15)...

Fig 15



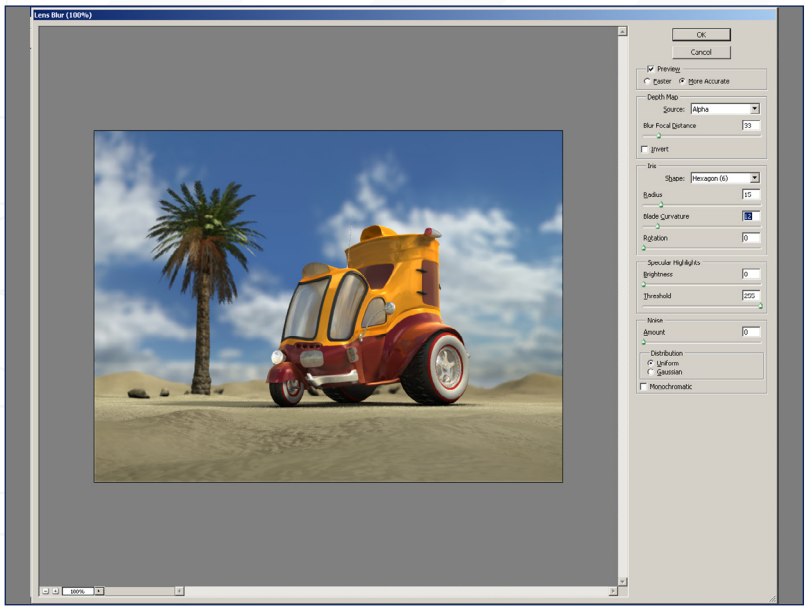
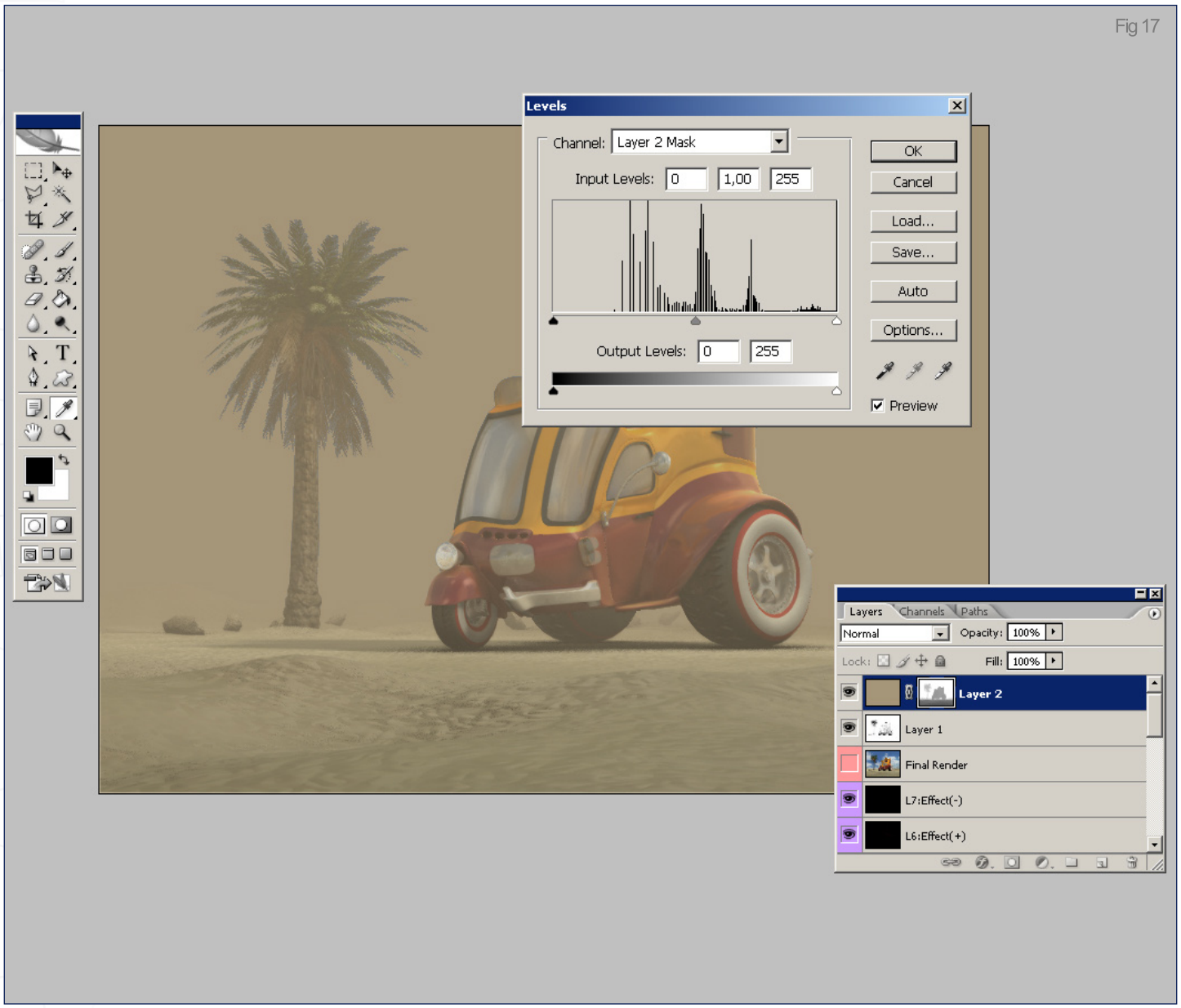


Fig 16

16. Go to Filter > Blur > Lens Blur. For the Depth Map, select Alpha. Now you can click into the preview image to choose a map range you want to have in focus. Alternatively you can use the Blur Focal Distance slider. The amount of blur can be set with the iris' Radius - a value of 15 is a good start (Fig16).

17. You can also add fog via the Depth Map, of course. Simply add a layer, use the Paint Bucket tool to colour it, and go to Select > Load Selection. Choose the alpha channel with the Depth Map. When you have the selection, click on Add Vector Mask. Now you can use the Image > Adjustment > Levels on the layer mask to change the range of the fog (Fig17).

Fig 17



CONCLUSION

You have now seen a way to gain full control over your image, and most importantly how to add effects, such as DOF, through post work. The set-up that you create for one image can be duplicated for another image, or for image sequences. I hope you have enjoyed this last part of the Tuc-Tuc tutorial and have gained some useful information from it. If you have questions please feel free to contact me.









TUC-TUC

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Tuc-Tuc

Maya

Is our new precise step-by-step tutorial which will begin with a vehicle model and cover the principals of applying shaders, placing it in a simple scene, and following with a two-part section on both lighting and rendering. The tutorial will begin by creating and applying materials for the various parts of the car, such as glass, chrome and tyres, as well as texturing some simple geometry that will make up a scene. It will then move onto lighting where the focus will be on setting up a lighting rig and the various parameters connected to this. Finally the series will culminate with a section on rendering, where the aim will be to finish with a polished image. The schedule is as follows:

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Issue 020 April 2007
Lighting Setup & Rig (with HDRI) Part 2

Issue 022 June 2007
Rendering Part 1

Issue 022 June 2007
Rendering Part 2

Enjoy ...

Rendering Part 2

In this part we are going to discuss a little bit about Global Illumination (GI) and about the way in which we may use our HDRI map to emit photons. We're going to end this tutorial by tuning everything - Shaders, Lights, Final Gather, Global Illumination and HDRI - into a final render.

1. Last month we discussed FG as a method of simulation of the Global Illumination. It's a pretty fast and accurate method, but it very often seems that it's just not enough. Because FG is making just a simulation of the GI, by emitting a number of rays (FG Rays) which are getting out right from the camera, we'll never know what's in the area where the camera is not seeing anything. In order to analyse and take into account every member of a scene, even if the camera is not seeing it, we are using a source of light which is emitting photons instead of rays (ray tracing method) (Fig01).

Fig 01

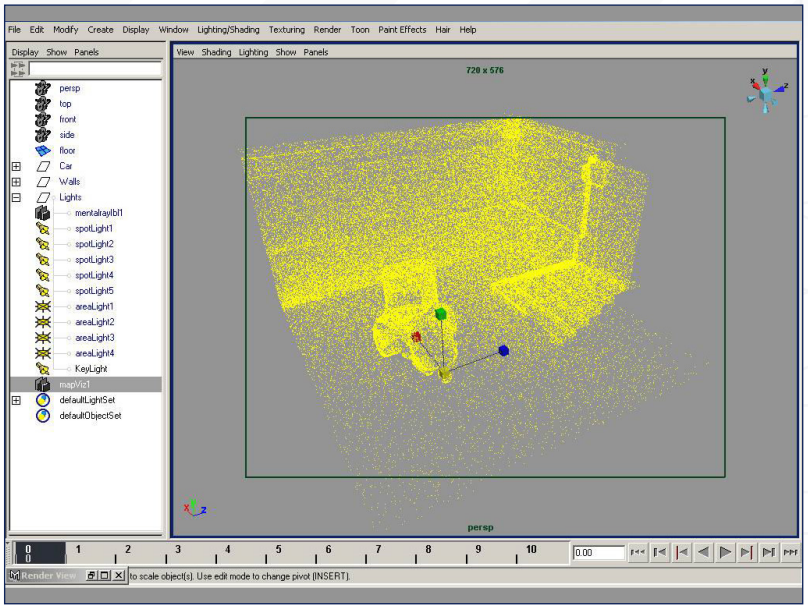
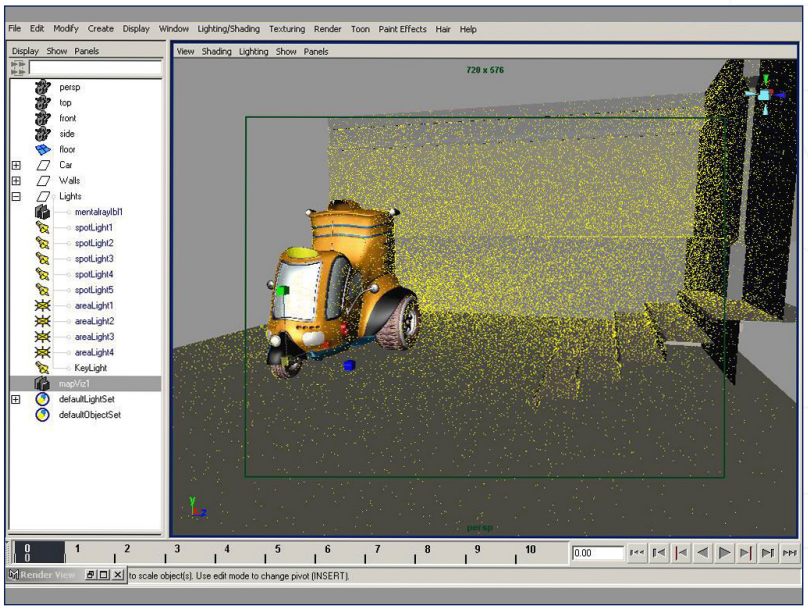
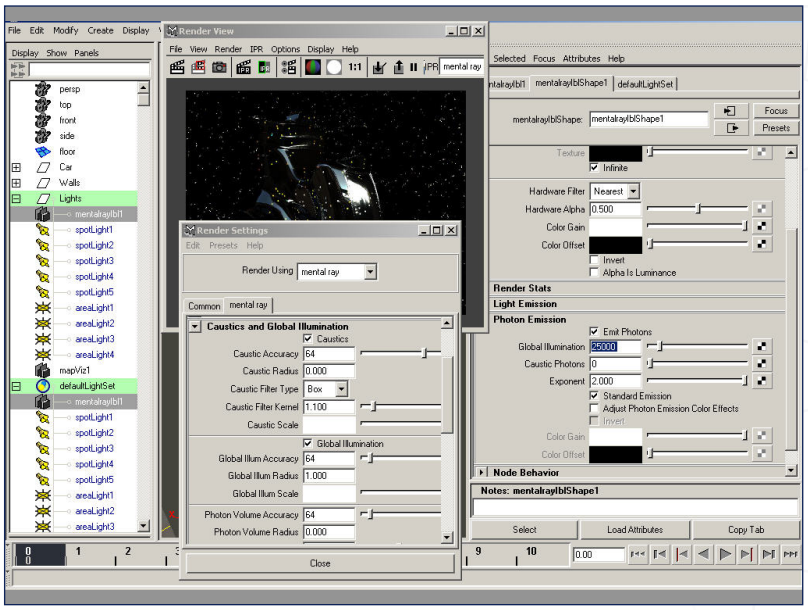


Fig 02



2. The photons are going to bounce into the scene until they're completely absorbed. Before the photon is totally absorbed however, it will transmit the entire stock of information gathered from the objects that it interacts with. So with Global Illumination, through the intervention of photons, we can simulate the illumination from the real world very accurately. As you can see in Fig02, we are also having photons on the opposite side of the camera so that we know what's happening in those areas where we do not have access with our camera. This includes effects such as colour bleeding; if a red table is next to a white wall, the white wall gets a slightly pink tint. This effect is not possible with ordinary ray tracing algorithms. These effects are pretty subtle, but add realism to the scene.

Fig 03



3. Now, the tuning process is very similar with the tuning of FG, with one major exception: we are going to need to create a source of photons. This can be a source of light (Spot light, Point

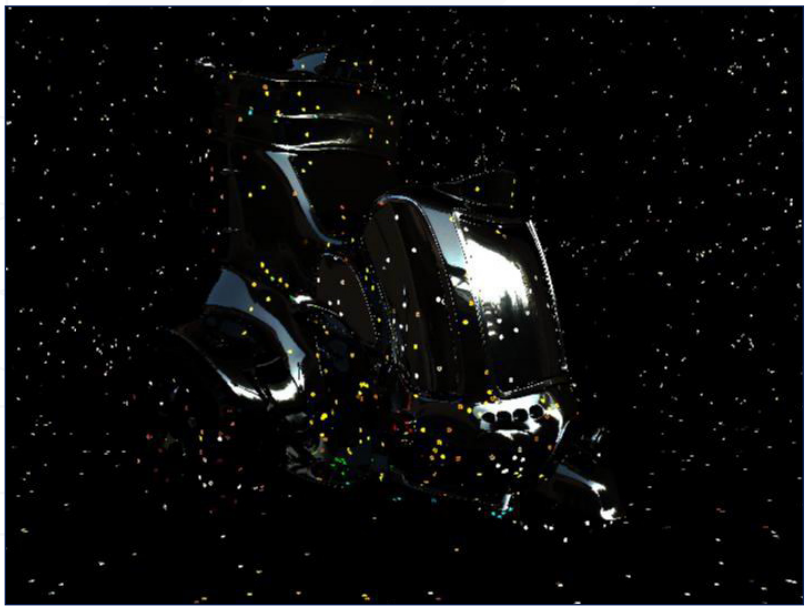


Fig 04

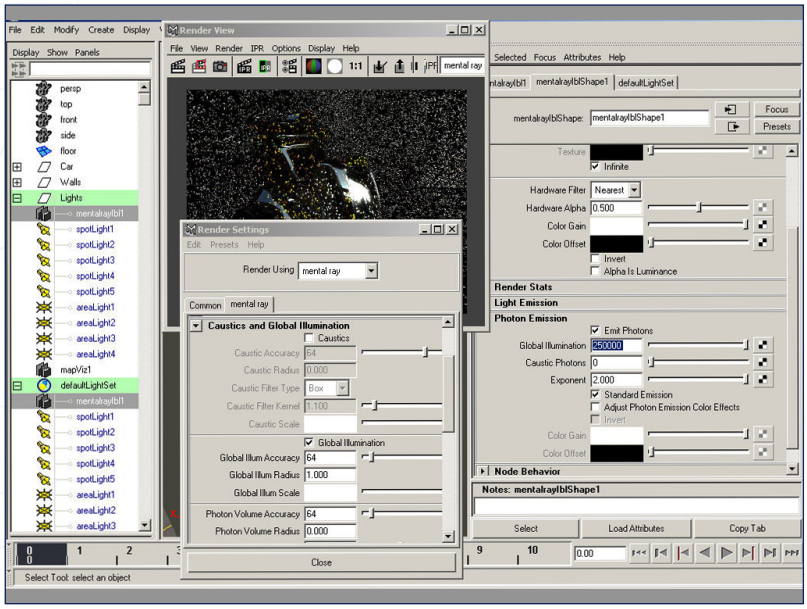


Fig 05



Fig 06

light, and so on), or even our IBL (Image Base Lighting) node. In this case, the source of light is going to be the HDRI map. Open your IBL attributes window from the Render Settings window, or simply double-click on it in the outliner “mentalrayIbl”, and under the Photon Emission tab check Emit Photons. By default, Photon Emission will also generate Caustic Photons. However, since we are not considering any caustic effects in the scene, just set the Caustic Photons number to 0. Notice that I have also activated Global Illumination in the Render Settings window (Fig03).

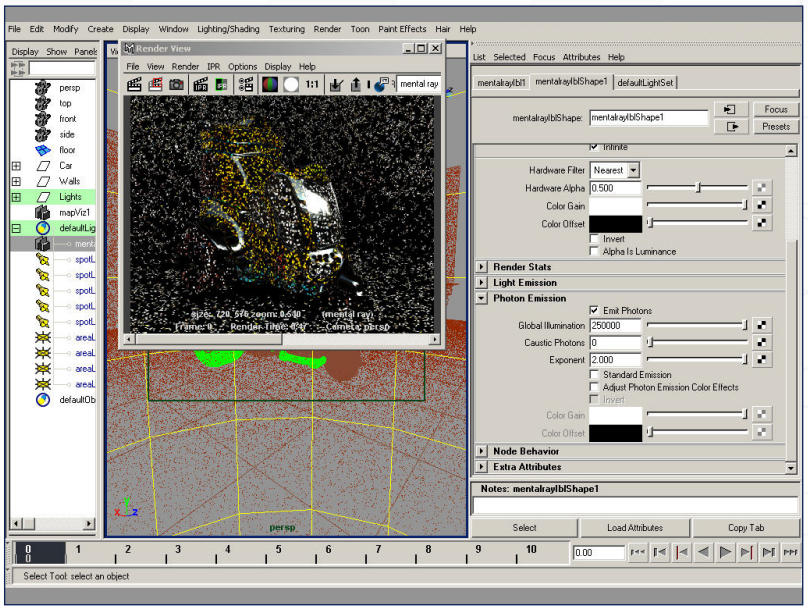
4. In Fig04 you can see a primary render with Draft settings. I have 25,000 photons bouncing in my scene. Since the Caustic Photons number is 0, I only have GI Photons with a GI Radius of 1. I now definitely want to increase the number of GI Photons in the IBL node, and the GI Radius and GI Accuracy in the Render Settings window.

5. This is a pretty slow process, which is a case of trial and error, so you’ll have to tune the number of photons and all the settings until you have a high density of photons in the scene, a radius of GI enough to take into account as many photons as needed per given area, and a pretty good GI Accuracy. I’m going to proceed to a step-by-step tuning process. The first step is to increase the number of Photons, since they aren’t enough for my scene. I increase the number ten times, to 250.000, as in Fig05.

6. Now it looks like I have a pretty good cover of my scene with photons. I can already see some GI effects. I have yellow photons reflected on the ground which means that the colour of the ground is going to be influenced by the yellow colour coming from the cars’ chassis. I can also see some red reflected photons too (Fig06). Nevertheless, I am not quite happy since it is obvious that not every photon has the same intensity. They’re looking like their energy is somehow lower than others’. Let’s now fix this...

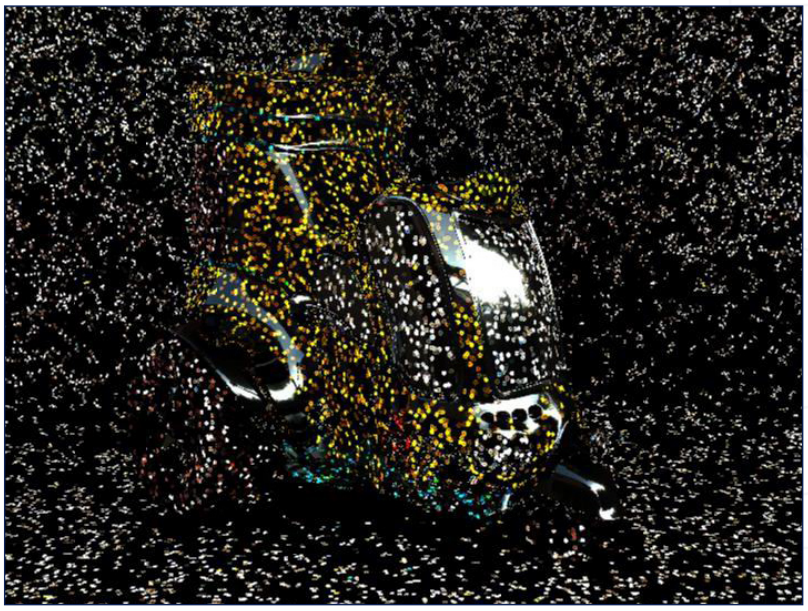
7. In the IBL node I have an option called “Standard Emission”. If this is off, photons will be stored on their first hit. This option could be seen as photons from the Sun being scattered in the atmosphere before reaching with any surface. Turn it on if you are emitting caustic photons, or if you are emitting light in combination with photons - which we are not actually doing ourselves. So, in this case, simply turn it off, as in Fig07.

Fig 07



8. In Fig08 you can now better see the distribution of the GI Photons all over the scene. This also shows that I have much more information to store for Global Illumination.

Fig 08



9. I’m pretty happy with my number, and intensity, so I’m leaving the IBL node for a while now and am going to focus on my Render Settings. Firstly, let’s increase the GI Radius to 50, as in Fig09.

Fig 09

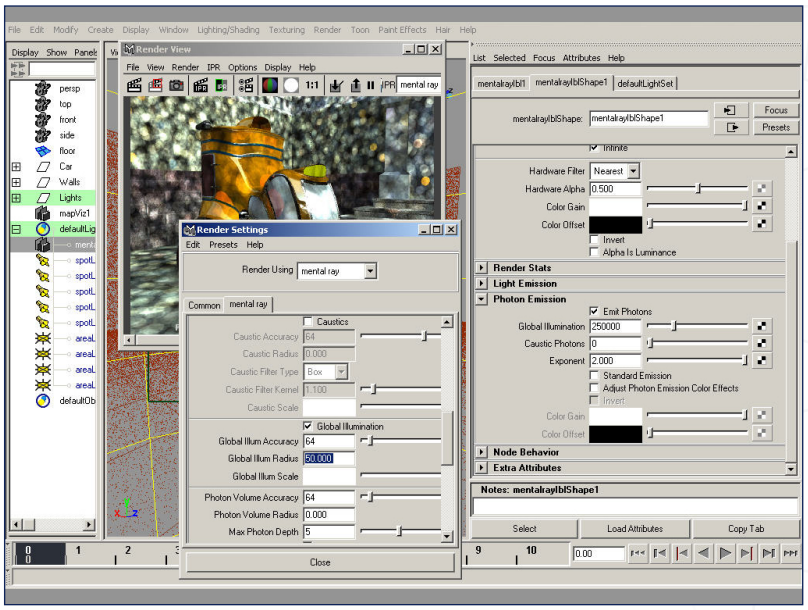




Fig 10

10. As you can see in Fig10, even if the radius is 50 I still have some dark spots and pretty isolated photons, like the red one on the ground and the yellow on the wall and under the car. I'm simply going to try to see if, by increasing the number of photons from the IBL node, it is going to help me.

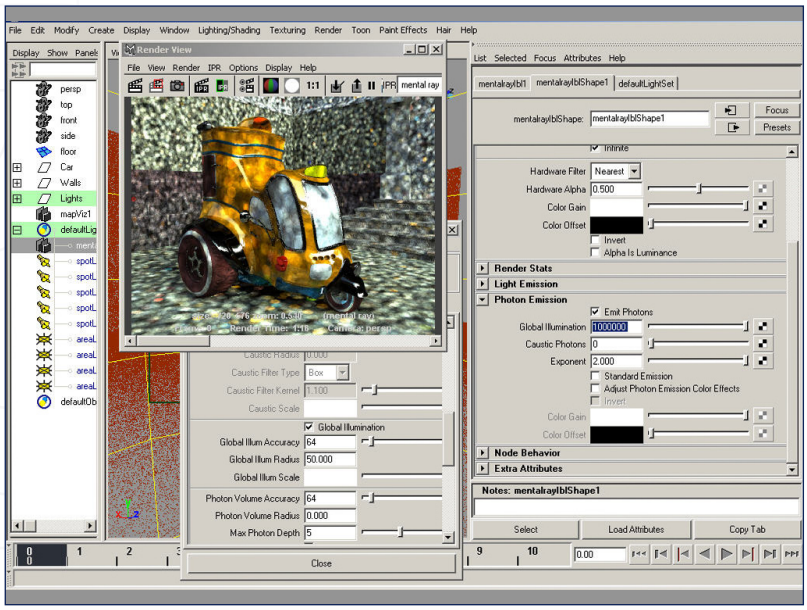


Fig 11

11. So I've increased the Photons' number to 1.000.000, as in Fig11.

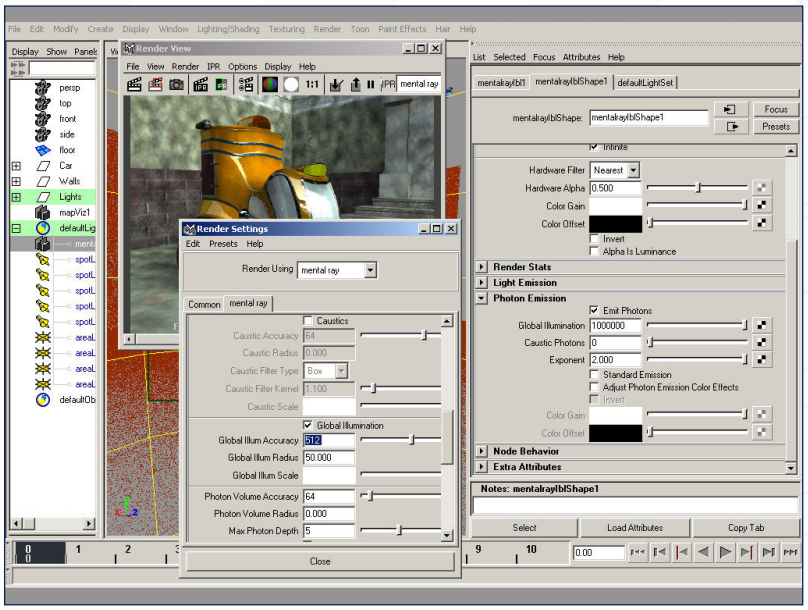


Fig 12

12. Well, it looks pretty good now, and I no longer have any more isolated photons - they are surrounded by some neighbours which they are sharing a little bit of their colour. Also, a nice combination of the yellow and blue colours are giving the green spots on the chassis (Fig12).

13. Now that I'm happy with the number of photons' and the GI Radius, I'm starting to work on the GI Accuracy. To start with, I just increase the number to 500, or something similar. I have chosen 512, but for no particular reason - I just thought to an exponent of number 2 (Fig13).

Fig 13



14. It is now starting to look much better; the photons are starting to blend their colours (Fig14).

Fig 14



15. I now increase the GI Accuracy to 1500 (Fig15). From this point forwards we are simply using trial and error methods until we get the desired results.

Fig 15

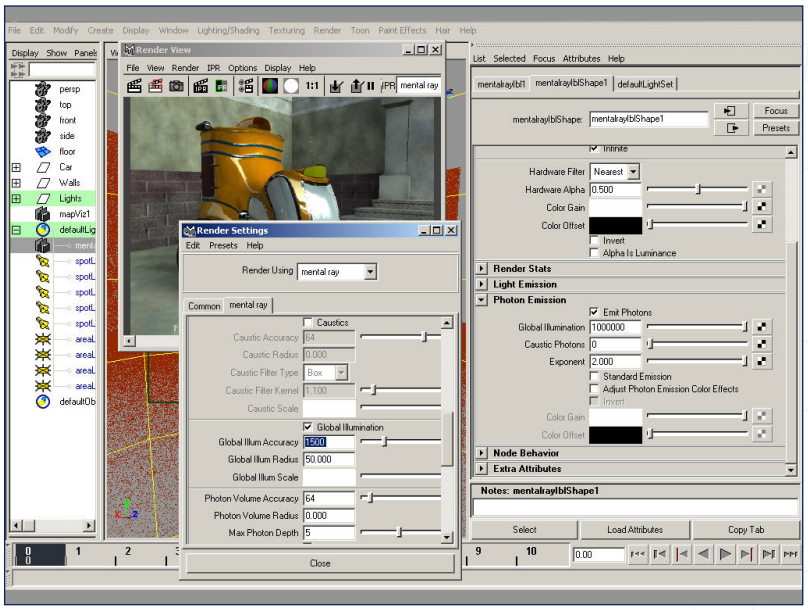




Fig 16

16. It's looking better still now, but I can still see the photons' shapes all around the scene. So, to fix this, I'm going to increase the GI Accuracy even more (Fig16).

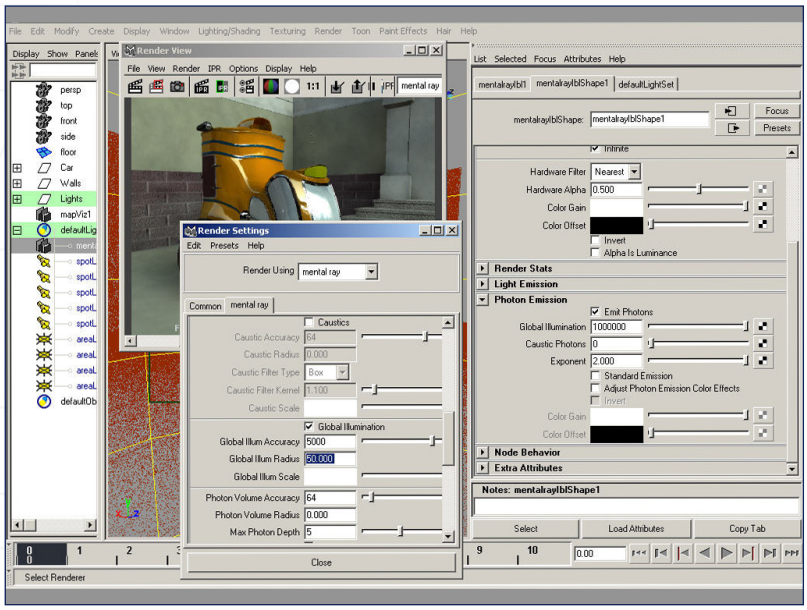


Fig 17

17. I'm going to bump the GI Accuracy right up to 5,000 now, having passed through the 2,500 and 3,500 GI Accuracy. However, I do recommend you to try these values too in order to see the differences between them (Fig17).

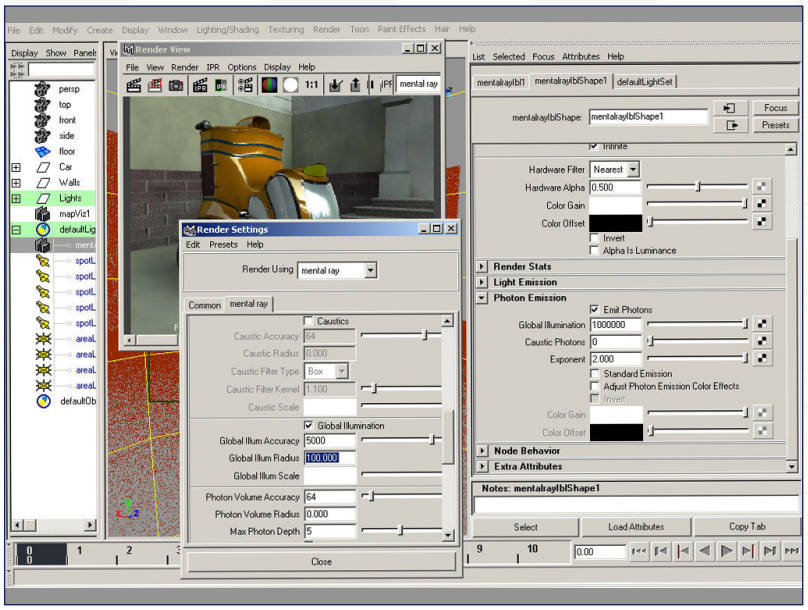


Fig 18

18. It looks pretty good now. I'm not seeing any distinctive photons - more colours. I have also achieved a pretty nice blend of colours on the ground underneath, and all around, the car. Also, a nice red and green colour bleed has been achieved, which looks pretty cool (Fig18).

19. I must still try to tune some other things, so I'll now try the GI Radius one more time. I increase the number to 100 (Fig19).

Fig 19



20. It's good... but it can be better still (Fig20).

Fig 20



21. After another tuning, behind what you are seeing in these images, I have found that GI Accuracy = 6500, GI Radius = 150 and 1.000.000 photons are enough (Fig21).

Fig 21

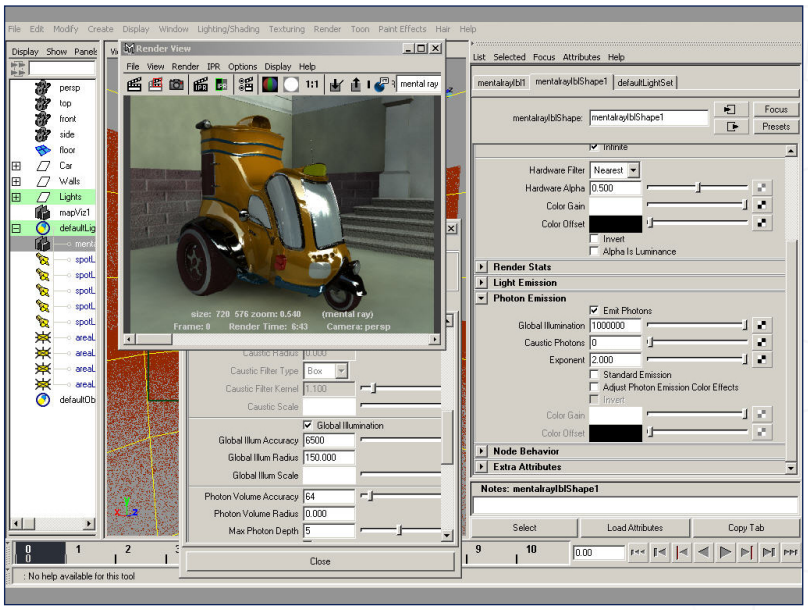




Fig 22

22. As you can see in Fig22 I have a cool yellow colour reflected on the ground which is what I was looking for, even if it is just a very subtle effect. I also have a nice red and green bleed around the side lamp, so I am now happy to go on and make my final renders...

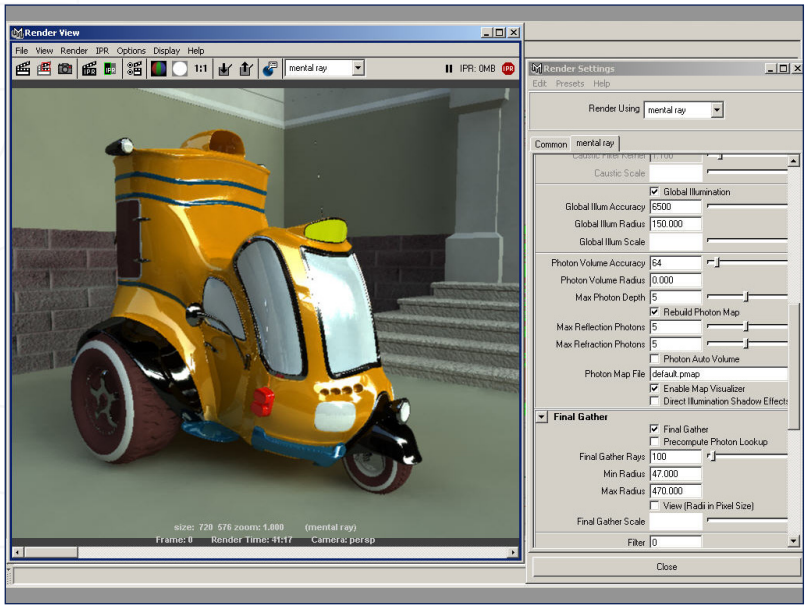


Fig 23

23. Enable Final Gather and make a render. It will be very time expensive so just let 100 FG Rays (Fig23).



Fig 24

24. In the end, even if the GI effect is very subtle, it definitely adds a realistic simulation of the scene by combining information from every element of the scene. This effect of colour bleeding is what we're actually seeing on a day to day basis in real life.

I hope you have had fun following this tutorial, and that you've found something new within its pages.

TUC-TUC

Originally designed and modelled by:

RICHARD TILBURY

Tutorial by:

BOGDAN HORDUNA

For more from this artist, please contact them:

suiobo@yahoo.com











Tuc-Tuc

SOFTIMAGE | XSI

Is our new precise step-by-step tutorial which will begin with a vehicle model and cover the principals of applying shaders, placing it in a simple scene, and following with a two-part section on both lighting and rendering. The tutorial will begin by creating and applying materials for the various parts of the car, such as glass, chrome and tyres, as well as texturing some simple geometry that will make up a scene. It will then move onto lighting where the focus will be on setting up a lighting rig and the various parameters connected to this. Finally the series will culminate with a section on rendering, where the aim will be to finish with a polished image. The schedule is as follows:

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Issue 022 June 2007
Rendering Part 1

Issue 022 June 2007
Rendering Part 2

Enjoy ...

Rendering Part 2 Part 6

Rendering Optimization

This time we'll have a look at rendering optimization and a little bit of post-production work in Photoshop. First of all, let's talk about Anti-aliasing. If you search for this word in Wikipedia, you will find that "in digital signal processing, anti-aliasing is the technique of minimising the distortion artifacts known as aliasing when representing a high-resolution signal at a lower resolution. Anti-aliasing is used in digital photography, computer graphics, digital audio, and many other domains". So, let's see how XSI and Mental Ray handle the anti-aliasing problem...

1. Once again we'll use a simple test scene to see how it works, and then we'll reproduce it on the real Tuc-Tuc scene. Open the "HDRI_Rig" scene and do a quick render region (Fig01). If you take a close look you'll notice that the contour of the object has some aliasing problems.

2. Open the rendering panel and set the parameters as shown in Fig02. Set the Min Level to -2 and the Max Level to 0. Always make sure that Min and Max differ from each other by a maximum of 2. Set all the Threshold values to 0,3. This is a good compromise for rendering previews, but it's not so good for final renderings.

3. Now try and set the Min to 0 and the Max to 2. Also decrease the Threshold values to something like 0,2, and then render again. As you may notice, the aliasing problems start to get better, but the render time increases.

Fig 01

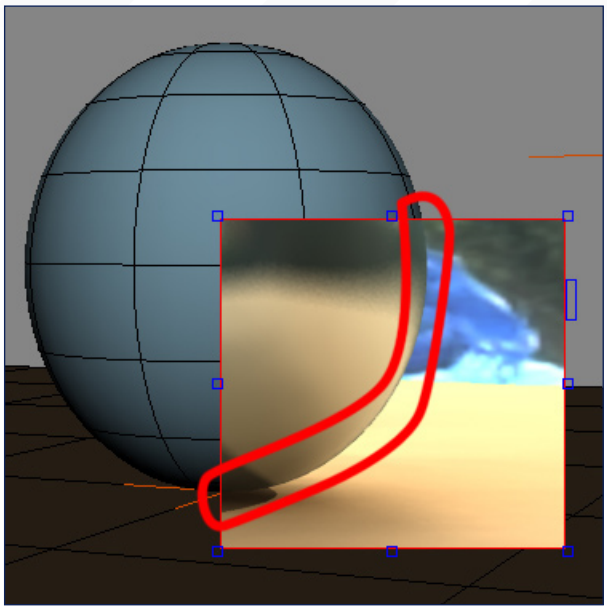


Fig 02

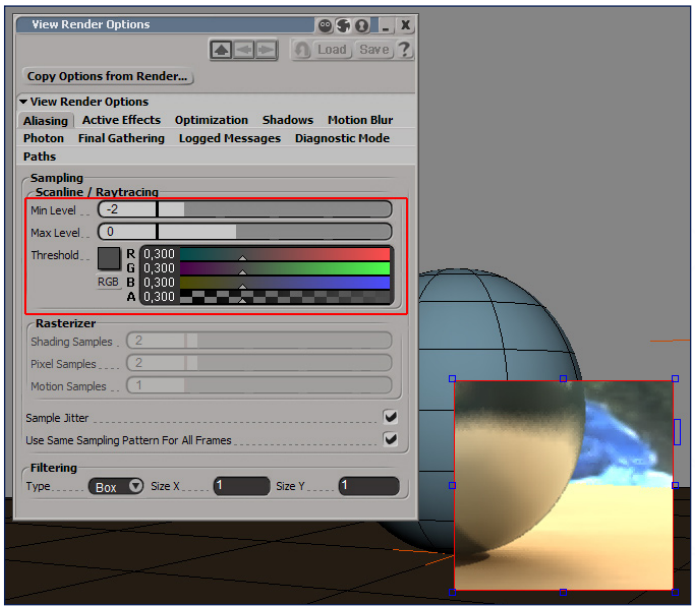
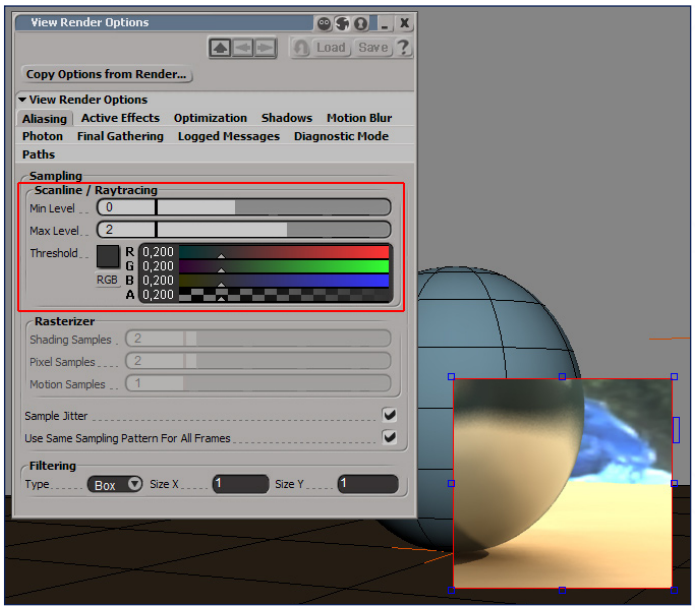


Fig 03



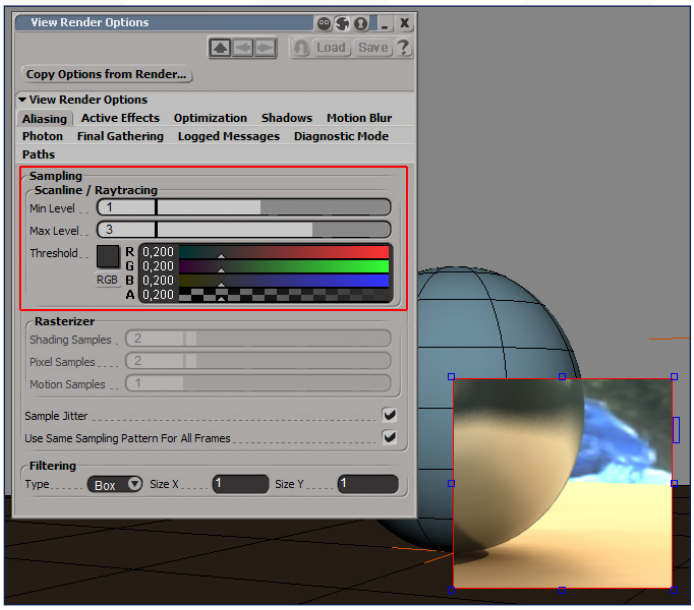


Fig 04

4. Let's now raise the Samples' values again. Set the Min to 1 and the Max to 3 (Fig04). Once again, the render times grow.

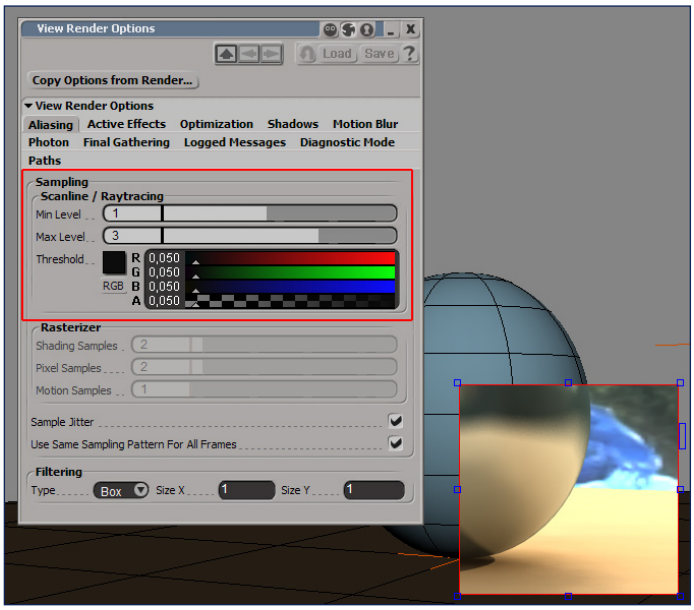


Fig 05

5. Now set the Threshold values to 0,05 and render again (Fig05).

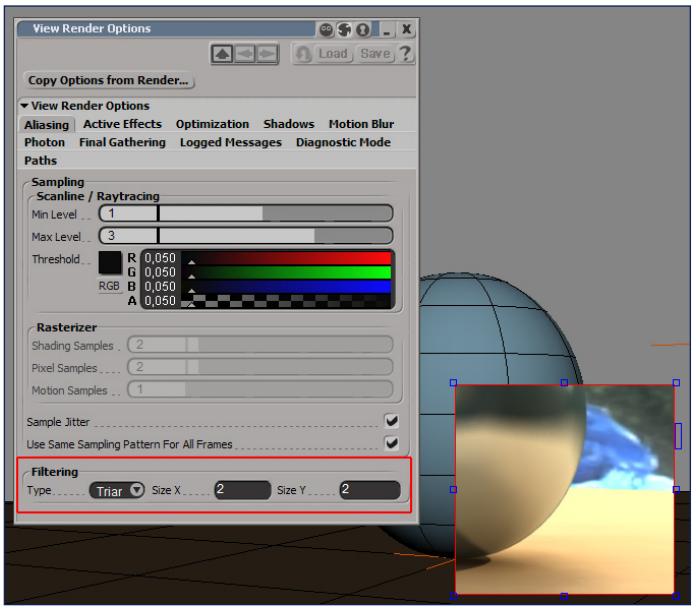
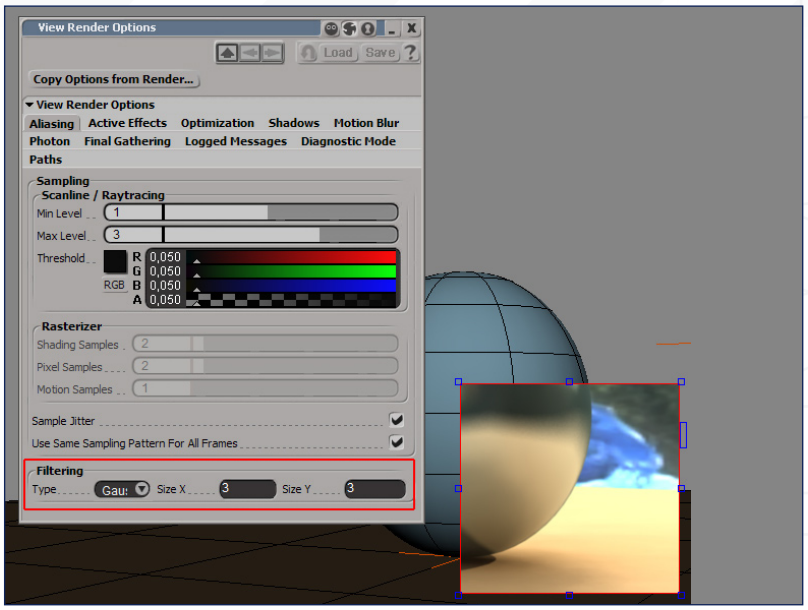


Fig 06

6. We can keep this configuration for the Samples and Threshold, but we can try different filtering methods offered by XSI and Mental Ray. Set the Filtering type to Triangular, and then render again (Fig06). Triangular is sharper than Box (which is the default), but it takes longer to render.

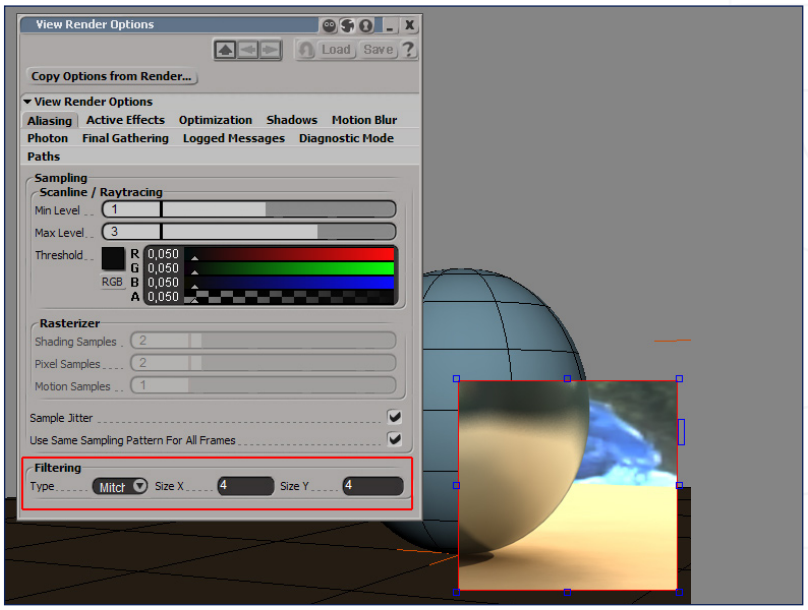
7. Change the Filtering to Gauss and render again (Fig07). Gauss filtering is a good compromise between speed and quality.

Fig 07



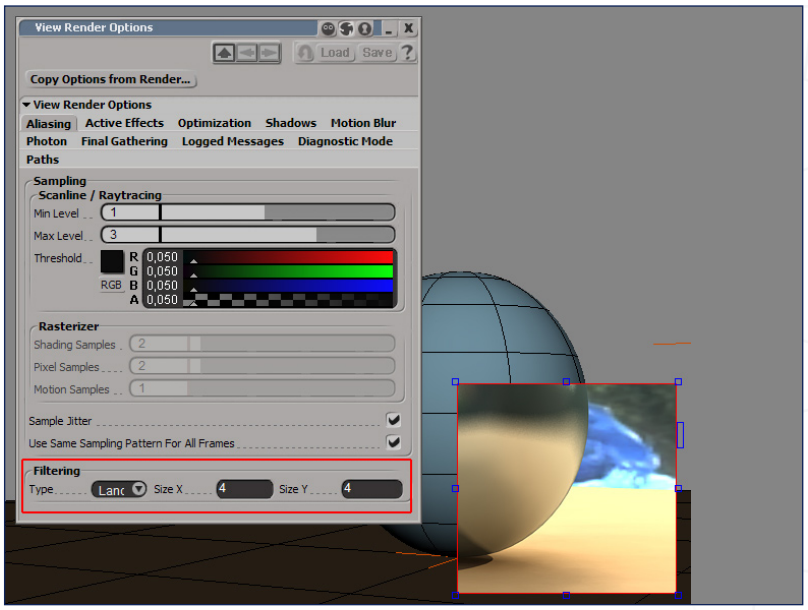
8. Now let's try Mitchell filtering (Fig08). This filtering type is very precise, but it takes longer than any other type to render. Use it only for final renders, and if you really need it. For example, if you are using the DOF (Depth of Field) effect, or if you plan to blur portions of the image, you will not need to use a filtering like this as it would just be a waste of time. Instead, use it for close-ups and highly detailed meshes.

Fig 08



9. Finally, try the Lanczos filtering (Fig09), which is very slow, but makes very sharp images.

Fig 09



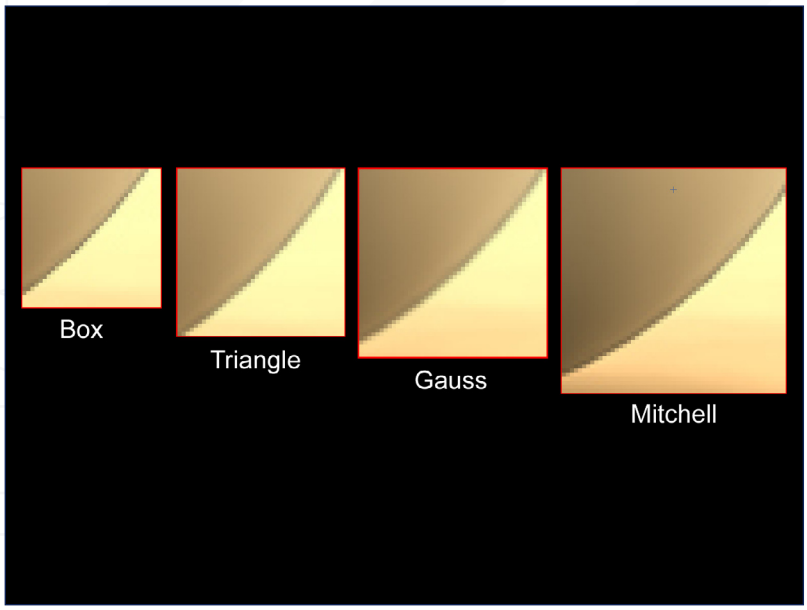


Fig 10

10. In Fig10 we can see a brief overview of the Filtering types. Now we can start using them on the real Tuc-Tuc scene. Simply plan what kind of render you are doing, and then choose the right Filtering type and the right Samples/ Threshold values, to avoid useless and endless rendering times.

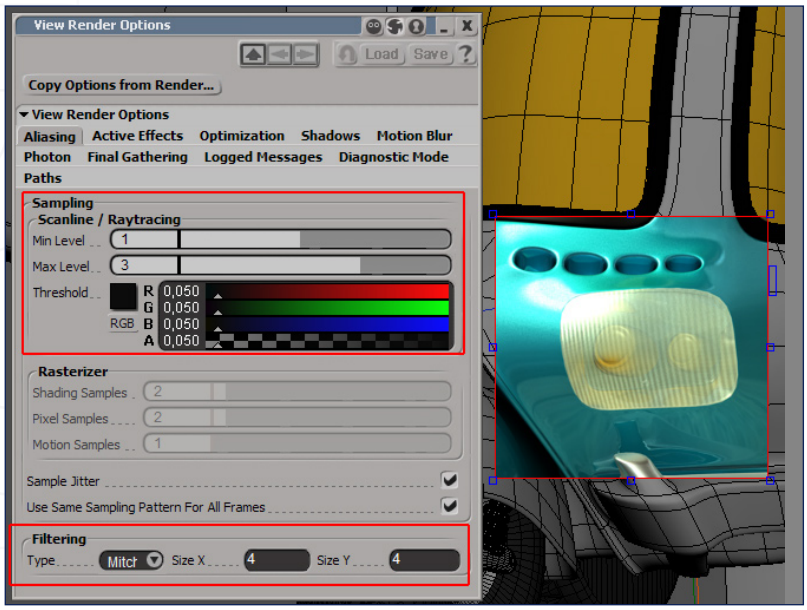


Fig 11

11. For example, in Fig11, there's a close-up of the front light. The glass has a strip pattern, so we need a very sharp Filtering and high values for the Samples and Threshold, otherwise we'll lose a lot of detail in the render. Keep in mind that it's all about compromise: quality / time.

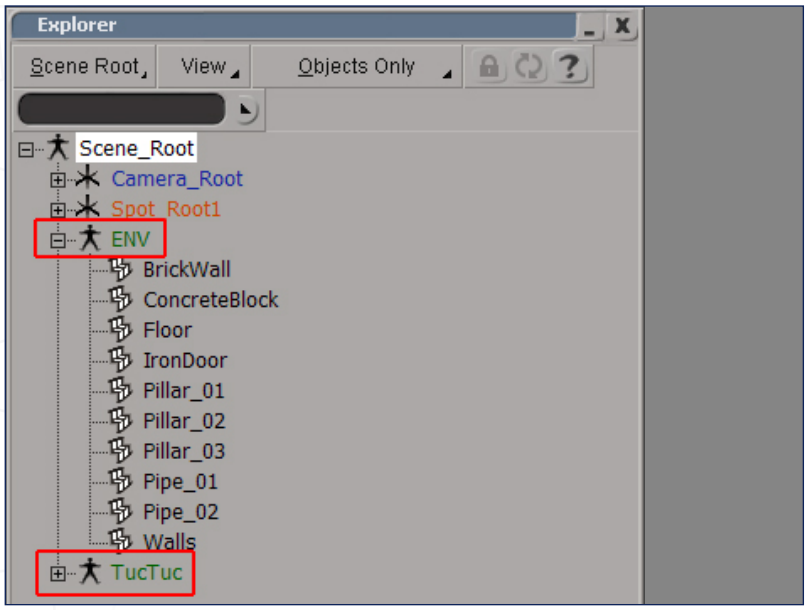
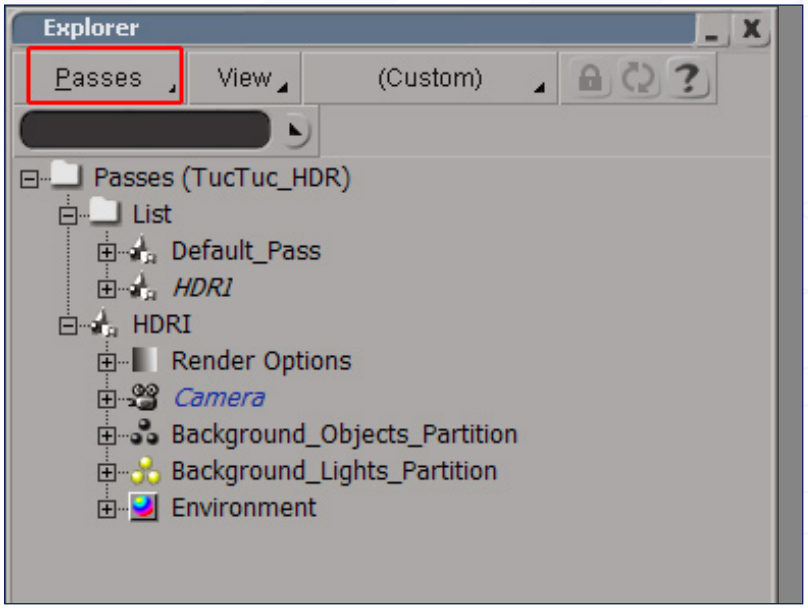


Fig 12

12. Now let's take a look at two other powerful tools in XSI: Passes and Partitions. Rendering Passes in XSI allows you to render different elements of the scene separately; Partitions are like groups, giving you more control inside a single Pass. For clarity's sake, the scene was split into two main models: TucTuc (which contains all of the vehicle meshes) and ENV (which contains all the environment elements, such as the floor, walls, and so on).

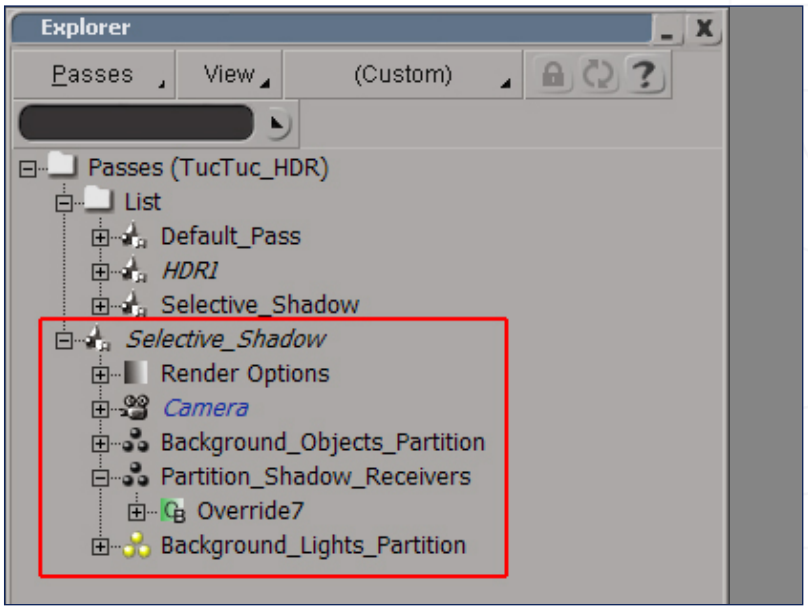
13. Open the XSI Explorer (<8> hot key) and change it show the Passes (Fig13). As you can see, we have two different Passes; the Default one, and the HDRI Pass which was created by the Image Based Lighting feature that we used in previous parts of this tutorial. Each Pass has its own rendering settings and parameters. In this case, for example, if you make the Default_ Pass active, it will not render any Image Based Lighting, but it will use the default settings.

Fig 13



14. Now let's create a new Selective Shadows Pass (Render > Pass > Edit > New Pass > Selective Shadow) (Fig14). This will allow us to render only the shadows of the scene so that we can composite them later onto the background in Photoshop, or a similar 2D application.

Fig 14



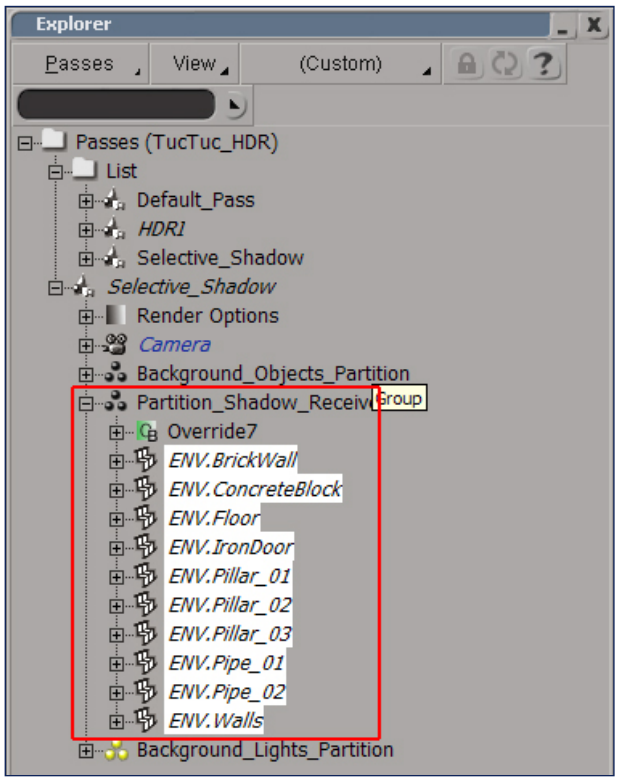


Fig 15

15. This Selective Shadow Pass has two Partitions: Background_Objects and Shadows_Receiver (Fig15). By default, all the objects of the scene are put into the Background_Object_Partition. If we put some objects into the Shadow_Receiver Partition, XSI will render the shadows of these objects.



Fig 16

16. Select all the ENV objects and put them into the Shadow_Receiver_Partition. If you render the scene now, you should get something similar to Fig16. Save the image to use it later in Photoshop.

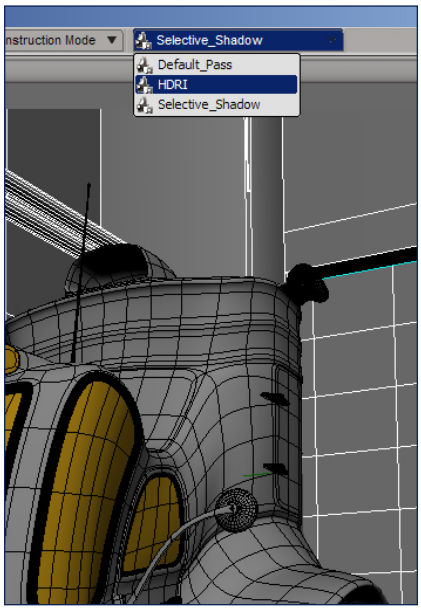


Fig 17

17. Now let's go back to the HDRI Pass (click on its name on the drop-down menu, shown in Fig17. Select the TucTuc model (make sure that all the vehicle meshes are selected along with the model), and then hide it. Also select the Spotlight, and disable the Shadow Casting option.

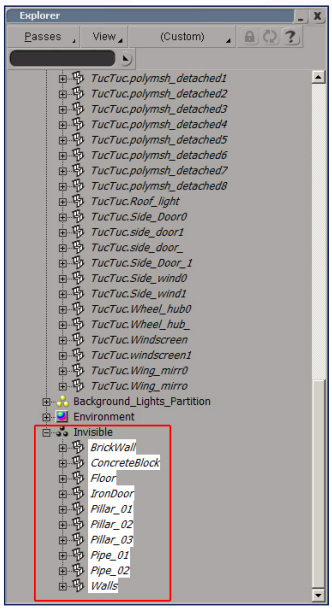


Fig 18

18. Now render the scene, and save the image again (Fig18).

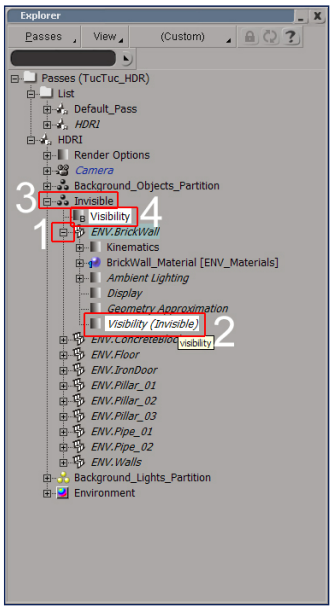
19. Select all the ENV objects and create another Partition in the HDRI Pass, and name it “Invisible” (Render > Pass > Partition > New Partition) (Fig19).

Fig 19



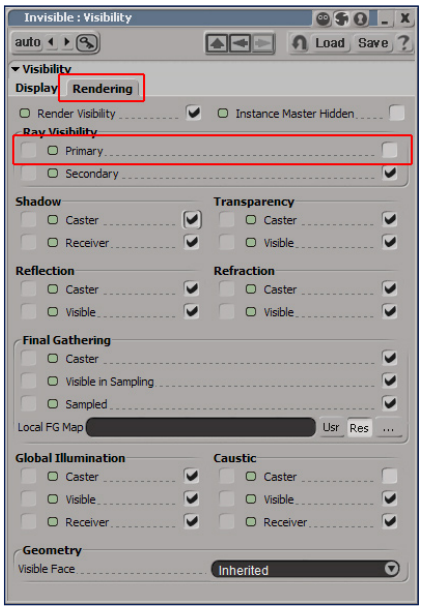
20. Now we need to create a new Visibility node in this new Partition. This node will rule the visibility options for the objects contained in the Partition. We need to make these objects invisible to the camera, but we’ll need them to show in the reflections and in the GI and FG solutions. Expand any object in the Partition by clicking on the + icon at the side of its name (see 1 in Fig 20). Click on its Visibility node (see 2 in Fig20). To select it use the <Ctrl> + <C> hot keys to copy it. Now click on the Partition name (see 3 in Fig20), and use <Ctrl> + <V> to paste the Visibility node (see 4 in Fig20).

Fig 20



21. Double-click on this new Visibility node to show its options. Switch to the Rendering tab and disable the Primary Rays Visibility (Fig21). This will make the objects invisible. Leave all the other options active, since we need these objects in the reflections and in the GI and FG solutions.

Fig 21



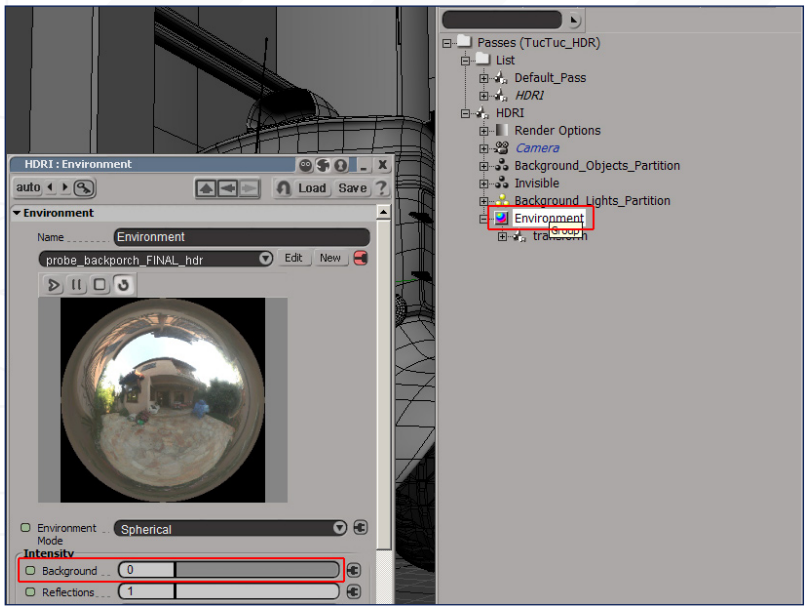


Fig 22

22. Open the XSI Explorer again and double-click on the Environment node (Fig22). Set the Background value to 0, so that it will not show in the render.



Fig 23

23. Render the scene again, and you will get the vehicle rendered alone, without the environment (Fig23). Save this image in TGA 32 Bit format, so as to have the alpha channel included.

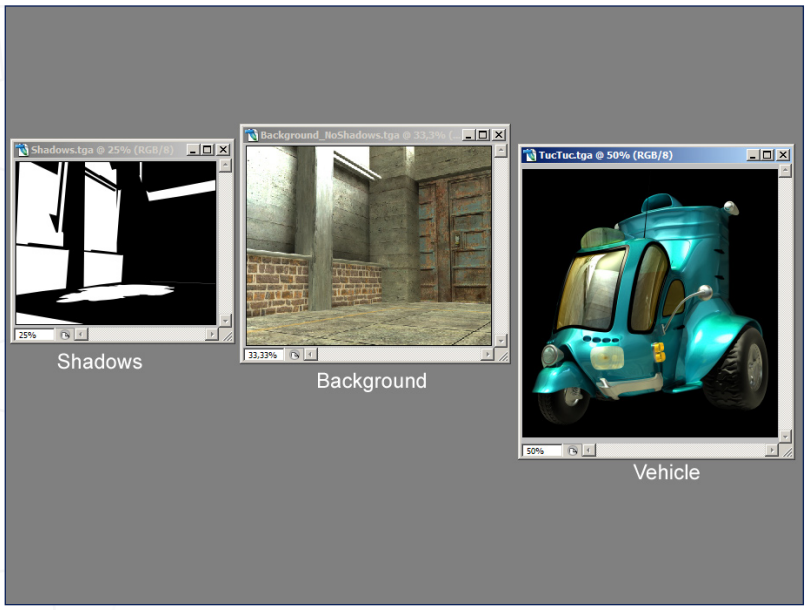
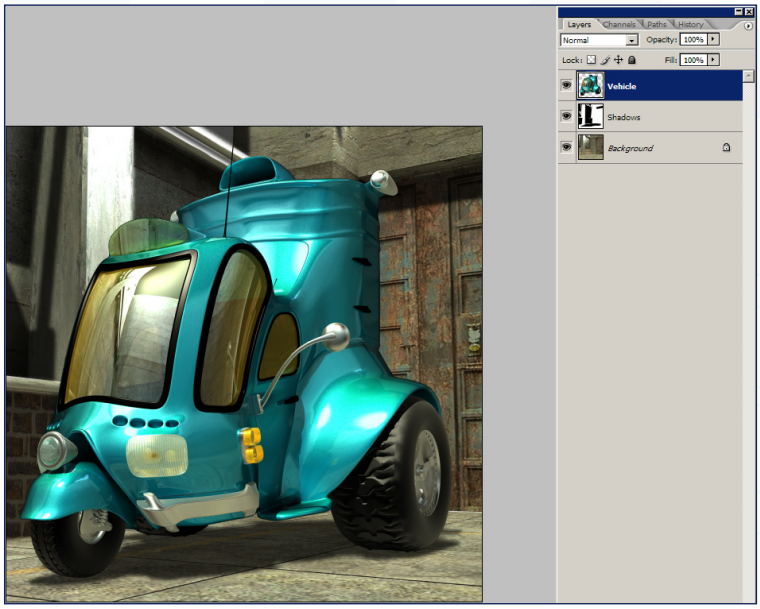


Fig 24

24. Now we can open the three different passes in Photoshop (Fig24): Background, Shadows and Vehicle.

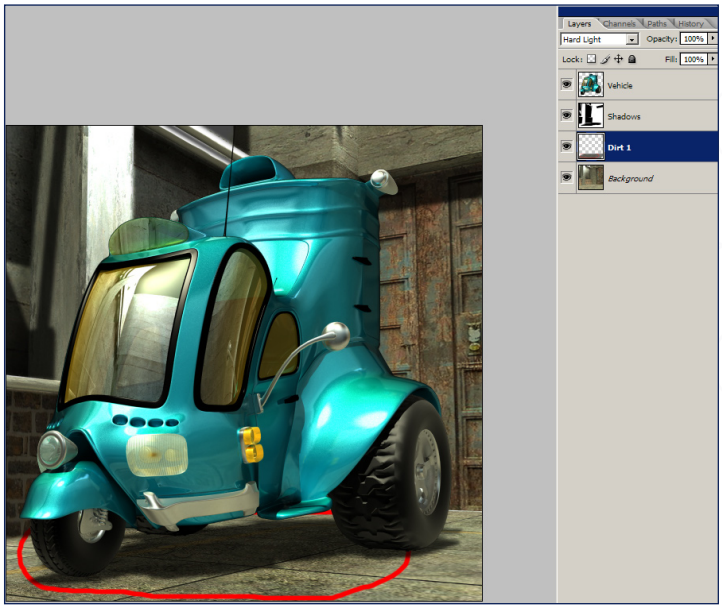
25. Put the Shadows layer above the Background, set its blending mode to Multiply, and decrease its opacity. Add the Vehicle above everything else (Fig25).

Fig 25



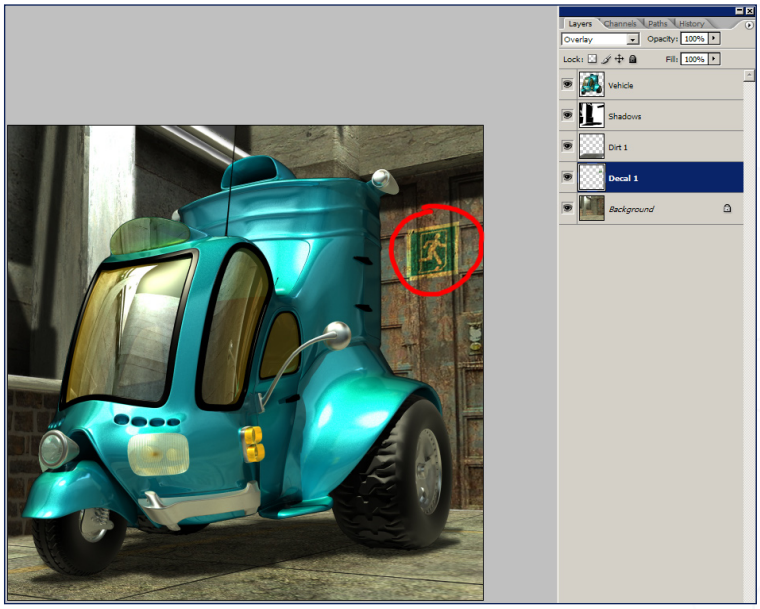
26. Having the passes rendered separately gives us more control; for example, now we can add a Dirt layer onto the floor (Fig26), but we don't have to render the whole scene again.

Fig 26



27. In Fig27, a small decal texture was added on the door behind the vehicle. The amount of detail that you can add is really up to you and your own imagination.

Fig 27



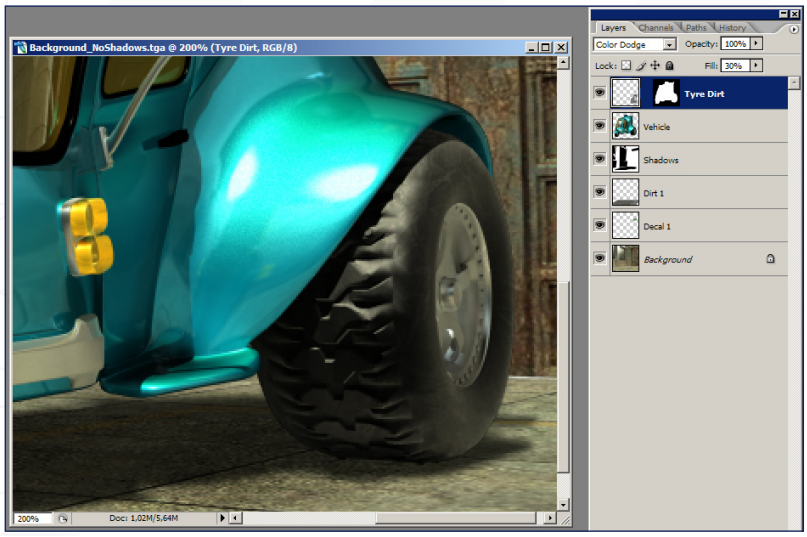


Fig 28

28. You can also add a dirt layer on the tyres, as shown in Fig28. Once you're done, you can then use the Photo Filter effects, and any other tool in Photoshop, to create some interesting images.

TUC-TUC

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